



Transmitted Electronically

October 21st, 2016

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**Subject: Final Removal Assessment Report
Dymet Site
Muskegon, Muskegon County, Michigan
Technical Direction Document No. S05-0001-16-05-001
SRS Contract No. EP-S5-16-01**

Dear Tricia Edwards:

Sustainment and Restoration Services, LLC (SRS) Superfund Technical Assessment and Response Team (START) is submitting the enclosed Dymet Site Final Removal Assessment (RS) Report dated October 21st, 2016. If you have any questions, please contact me at (312) 220-7171.

Sincerely,

Katherine Cooper for Stacey DeLaReintrie
START Project Manager

**REMOVAL ASSESSMENT REPORT
DYMET SITE - RS
MUSKEGON, MUSKEGON COUNTY, MICHIGAN**

Final

Prepared for:

U.S. Environmental Protection Agency, Region 5
77 West Jackson Boulevard Chicago, IL 60604

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Contract No.:	EP-S5-16-01
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TABLE OF CONTENTS

<u>Section</u>	<u>Page</u>
1. INTRODUCTION.....	1
2. SITE BACKGROUND	2
2.1 Site Description.....	2
2.2 Site History	2
3. REMOVAL ASSESSMENT ACTIVITIES	3
3.1 Site Reconnaissance.....	3
3.2 Sampling	5
3.3 Liquid Sampling – Drum, Container, and Pit Locations	6
3.4 Solid Sampling – Drum, Container, and Floor Locations	7
3.5 Asbestos Sampling.....	8
4. SAMPLE ANALYTICAL RESULTS	10
4.1 Liquid Sample Results	10
4.2 Solid Sample Results	11
4.3 Asbestos Sample Results	11
5. POTENTIAL SITE RELATED THREATS	13
6. SUMMARY	18

APPENDICES

- A TABLES
- B FIGURES
- C ASBESTOS SAMPLE SUMMARY REPORT
- D PHOTOGRAPHIC LOG
- E VALIDATED ANALYTICAL DATA PACKAGE

1. INTRODUCTION

Sustainment and Restoration Services LLC (SRS) performed the Removal Assessment (RS) at the Dymet Site (Site) located at 1901 Peck Street in Muskegon, Muskegon County, Michigan. SRS, the Superfund Technical Assessment and Response Team (START) contractor was tasked by the United States Environmental Protection Agency (U.S. EPA), under contract No. EP-S5-16-01 and Technical Direction Document (TDD) No. S05-0001-16-05-001, to perform this RS. START was tasked to prepare a site-specific Health and Safety Plan (HASP) and a field Sampling and Analysis Plan (SAP); procure the services of an analytical laboratory; collect drum, floor pit, solids, and asbestos containing material (ACM) samples; document on-site conditions with written logbook notes and still photographs; evaluate analytical data; and prepare this RS Report. SRS and its team subcontractor Oneida Total Integrated Enterprises (OTIE) members Katherine Cooper and Stacey DeLaReintrie conducted the field investigation and sampling on May 17th and 18th, 2016.

This RS report summarizes the Site background; discusses the assessment; provides a summary of the analytical data; and discusses potential site-related threats. The appendices for this report include tables (Appendix A), figures (Appendix B), photographic log (Appendix D) and the validated analytical data package (Appendix E).

2 SITE BACKGROUND

This section provides a description of the Site and the Site history.

2.1 Site Description

The Dymet Site is located at 1901 Peck Street, Muskegon, Michigan (Figure 1). The approximately 1.8-acre Site includes two buildings attached via an enclosed gangway. The buildings are secured by locked doors, however there are some broken and some boarded up windows. The Site is physically bounded to the south by Holbrook Avenue, to the east by Peck Street, and to the west by Sanford Street. Immediately to the north the Site is bounded by a radio station and a residential property, followed by Alpha Avenue. The Site area is a mix of residential, commercial, industrial, and recreational properties. There is a ballpark immediately across Peck Street, less than 0.1 miles to the east of the Site. Two large hospitals are located less than 0.3 miles to the north of the property and two public schools are located within a less than 0.5 miles to the north and west. According to a Michigan Department of Environmental Quality (MDEQ) report, the property has created a safety issue within the neighborhood through the evidence of graffiti and gang activity (MDEQ, 2016).

2.2 Site History

Information from the MDEQ indicates that the Site was previously utilized as a manufacturing facility of die cast tools and foundry work (MDEQ, 2016). Other operations conducted at the Site included a steam cleaning and small dry cleaning operation and a large printing operation. Dymet was classified as an operator/non-generator in 1973, then as a small quantity generator in 1981. The Site was inspected by MDEQ for potential proposal as a Brownfields project. However, because of the presence of abandoned drums, MDEQ requested U.S. EPA assistance to characterize and address drum and other material observed inside the Site buildings.

According to the Muskegon Chronicle and MLive, two fires have occurred at the Site. The first fire occurred in December 2011, followed by a second fire in August 2014 (Mlive.com, 2014). A fire marshal responding to the first fire stated that the natural gas to the building had been turned

off and the electrical wiring had been stripped (The Muskegon Chronicle, 2011). According to the articles the causes of both fires remain under investigation.

3 REMOVAL ASSESSMENT ACTIVITIES

U.S. EPA and START members performed RS activities on May 17th and May 18th, 2016. Assessment activities included site reconnaissance, field screening, and collection of potential ACM samples, floor and container solid samples, solid and liquid drum samples, liquid floor pit samples, and small container liquid samples. These RS activities are discussed below.

A site-specific SAP was developed for conducting the assessment prior to mobilizing to perform the fieldwork. The SAP described the data quality objectives (DQO), sampling strategy, sampling locations, sampling methodology, and analytical procedures for analyzing the samples.

This section summarizes site reconnaissance (subsection 3.1), sampling (subsection 3.2), liquid sampling (subsection 3.3), solids sampling (subsection 3.4), and asbestos sampling (3.5). Table 1 presents a summary of collected samples and sampling locations.

Photographic documentation is provided in Appendix D.

3.1 Site Reconnaissance

U.S. EPA On-Scene Coordinator (OSC) Jeff Kimble, State of Michigan certified asbestos inspector John Pomroy, and START members mobilized to the Site on May 17th and May 18th, 2016. Site reconnaissance was performed in level “D” personal protective equipment (PPE) in accordance with the approved site-specific HASP. START calibrated the MultiRAE® Plus photoionization detector (PID) multi-gas monitor prior to conducting the Site reconnaissance. The MultiRAE® Plus PID measures carbon monoxide (CO), volatile organic compounds (VOCs), hydrogen sulfide (H₂S), lower explosive limit (LEL), and oxygen (O₂).

The Site is comprised of two two-story buildings. The west building had a basement. A fully enclosed gangway connected the two buildings. The Site was fenced in some areas with gaps observed on the east side of the Site. There was a large opening in the roof of the east building (see photograph 42). A large pool of water was observed near the south entrance to the west

building (see photograph 41). Some of the windows of the two buildings at the Site were boarded up to cover broken windows. Vandalism through broken windows was noticed during the site reconnaissance. The gaps in the fence and the broken and boarded up windows are considered areas susceptible to potential breaches by trespassers.

Drums and containers were present inside both buildings. Drums were observed staged in groups of three to fifteen (see photographs 34-36) and contained varied amounts of material at the time of site reconnaissance. Drums labeled “Sodium Cyanide- Poison” and “Oxidizer” were observed in the main room of the west building near a staging area of numerous other drums. Two 55-gallon sodium cyanide steel drums were wrapped in plastic wrap which covered the label. The two drums were rusted and exhibited signs of deterioration. The 35-gallon oxidizer steel drum also exhibited signs of deterioration.

Numerous labeled and non-labeled small containers were found throughout the facility (see photographs 37-40). Of the labeled containers, labels indicating “Metallic Muriatic Acid”, “Acrylic Enamel Reducer”, “Formaldehyde”, and “Paper and Frisket Cement” were observed during this reconnaissance.

Four floor pits were observed in the east building. Two floor pits appeared to contain water while the two other floor pits appeared to contain a dark oily liquid. One floor pit containing the dark oily liquid was cordoned off by a yellow caution tape tied around drums. This floor pit was below a large piece of equipment (see photograph 10). The liquid observed in this floor pit was approximately five feet below the ground surface. The second floor pit containing a dark oily liquid was partially blocked by a yellow rail (see photograph 12). This floor pit was also below a piece of equipment. The liquid observed in this floor pit was approximately six inches below the ground surface.

Spilled solids and drums containing solid material were observed in several locations throughout the facility. Several drums and containers were observed without lids and contained unknown solids (see photograph 14). Solids were also observed in piles on the floor in various areas of the east building (see photograph 16 and 18). In one area of the east building, a pile of white powder was observed spilled near a drum labeled “283LF Infiltrant” (see photograph 19).

The state certified asbestos inspector identified potential ACM in several areas throughout the facility. Those areas included piping, two boiler exteriors, bricks, air cell insulation, and a stack of window panes (see photographs 1-6). Insulation on two boilers were identified to contain potential friable ACM. One boiler was located in the east building and the other was located in the basement of the west building. Bricks containing potential ACM were located in both the west and east buildings and had a weathered appearance. Piping containing potential ACM was located throughout both buildings. The air cell insulation located near the south entrance of the west building was loose and dangling. The stack of glass window panes containing potential ACM in the caulking was observed in the basement of the east building.

3.2 Sampling

START conducted removal assessment sampling activities at the Site on May 17th and May 18th, 2016. START documented approximately 86 55-gallon drums and 118 small containers (35-gallons or less) abandoned at the Site. The amount of remaining material inside the drums and small containers varied.

During this assessment, one liquid and one solid drum sample, 3 liquid small container samples, 2 liquid floor pit samples, 4 solids samples, and 28 potential ACM samples were collected for laboratory analysis. Potential ACM samples were relinquished to MDEQ for analysis. All other sample containers were labeled and preserved on ice and shipped to the laboratory for analysis. Samples collected from the Site are summarized in Table 1. Figure 2 shows the sample locations.

Based on these observations, EPA implemented a sampling strategy to verify and document the suspected wastes with off-site laboratory analysis. EPA selected the following containers and/or waste for sampling:

Table 1 Removal Assessment Sample Summary Dymet Site Muskegon, Muskegon County, Michigan			
Sample ID	Matrix	Sample Description (Markings/Labels)	Sample Location
DYM-DR-01	Solid	55-gallon drum labeled “Sodium Cyanide”	West building
DYM-DR-02	Liquid	35-gallon drum labeled “Oxidizer” and “Corrosive”	West building
DYM-SC-01	Liquid	1-gallon container labeled “Muriatic Acid”	West building
DYM-SC-02	Liquid	Duplicate sample of DYM-SC-01	West building
DYM-SC-03	Liquid	1-gallon container labeled “Acrylic Enamel Reducer”	West building
DYM-FLP-01	Liquid	Floor pit designated 01	East building
DYM-FLP-02	Liquid	Floor pit designated 02	East building
DYM-SOL-03	Solid	55-gallon open drum containing gray fine material	East building
DYM-SOL-05	Solid	Coarse material pile on the ground	East building
DYM-SOL-06	Solid	55-gallon open drum containing gray fine material	East building
DYM-SOL-07	Solid	Fine white material pile on the ground near 55-gallon drum labeled “283LF Infiltrant”	East building

3.3 Liquid Sampling – Drum, Container, and Pit Locations

START collected six liquid samples, including one drum sample, three small container samples, and two floor pit samples. All drum samples were collected while wearing Level B personal protective equipment (PPE). All other liquid samples were collected while wearing Level D PPE.

Liquid drum sample DYM-DR-02 was collected from a drum labeled “Oxidizer” and “Corrosive” using a dedicated glass drum thief (see photographs 24-26). The liquid was clear

in color. The drum from which the sample was collected showed signs of deterioration. The liquid drum sample was analyzed for corrosivity determination by pH in accordance with EPA Method E150.1.

START collected three small container liquid samples, including one duplicate sample. The small container liquid samples were collected by decanting the container contents directly into lab-supplied glass jars. Sample DYM-SC-01 and its duplicate sample DYM-SC-02 were collected from a small container labeled “Muriatic Acid”. Muriatic acid is otherwise known as hydrochloric acid. Three one-gallon plastic containers labeled “Muriatic Acid” were stored together. All three of the containers were full. Sample DYM-SC-03 was collected from a small steel container labeled “Acrylic Enamel Reducer” (see photograph 20). Only one container labeled “Acrylic Enamel Reducer” was observed. All samples collected from the small containers were clear liquids. All of the sampled small containers were located in the basement of the east building.

Two of the liquid small container samples (DYM-SC-01 and DYM-SC-02) were analyzed for corrosivity determination by pH in accordance with EPA Method E150.1. One liquid small container (DYM-SC-03) was analyzed for ignitability determination by flashpoint in accordance with EPA SW-846 Method 1010.

START collected two liquid floor pit samples (DYM-FLP-01 and DYM-FLP-02). Sample DYM-FLP-01 was collected using a dedicated sample cup. Sample DYM-FLP-02 was collected using a dedicated bailer. Both of the samples were dark oily liquids. Sample DYM-FLP-02 had an oily liquid top layer and a water bottom layer.

The two liquid floor pit samples were analyzed for total and Toxicity Characteristic Leaching Procedure (TCLP) metals plus zinc, copper, and nickel, and polychlorinated biphenyls (PCBs). Analyses were performed in accordance with EPA SW-846 Method 1311 and 6020 for TCLP metals plus zinc, copper, and nickel, EPA SW-846 Method 1311 and 7470A for TCLP mercury, EPA SW-846 Method 6020 for Total metals plus zinc, copper, and nickel, EPA SW-846 Method 7471A for mercury, and EPA SW-846 Method 8082 for PCBs

3.4 Solids Sampling – Drum, Container, and Floor Locations

START collected five solid samples, including one solid drum sample, two floor solids samples, and two container solids samples. All solid samples were collected while donning Level D PPE.

START collected solid drum sample DYM-DR-01 using a dedicated trowel from one of the two drums labeled “Cyanobrik Sodium Cyanide” (see photographs 24-26). The solid sample was a coarse sandy material and was dark brown in color. The two drums labeled “Cyanobrik Sodium Cyanide” were stored together wrapped with plastic wrap. The sampled drum was full while the quantity of the second drum is unknown as it was not opened. The solid drum sample was analyzed for amendable cyanide, total metals plus zinc, copper, and nickel, and reactivity. Analyses were performed in accordance with EPA SW-846 Method 9012A for amendable cyanide, EPA SW-846 Method 6020 for total metals plus zinc, copper, and nickel, EPA SW-846 Method 7471A for mercury, and EPA SW-846 Method 7.3.3.2 and 7.3.4.2 for reactivity determination.

START collected 2 floor solids and 2 container solids samples, using dedicated equipment and labeled them as DYM-SOL-03, DYM-SOL-05, DYM-SOL-06, and DYM-SOL-07 (see photographs 13-19). Samples DYM-SOL-03 and DYM-SOL-06 were collected from open drums containing gray fine material. Sample DYM-SOL-05 was a floor solids sample collected from a coarse material pile of small metal pieces and dirt on the ground. Sample DYM-SOL-07 was a floor solids collected from a pile of fine white powder near a drum labeled “283LF Infiltrant”. The fine white powder quickly became dust when disturbed. The solids samples were transferred directly into lab-supplied glass jars using the dedicated trowel or cup.

The four solids samples were analyzed for TCLP metals plus zinc, copper, and nickel in accordance with EPA SW-846 Method 1311 and 6020, EPA SW-846 Method 1311 and 7470A for TCLP mercury, for Total metals plus zinc, copper, and nickel in accordance with EPA SW-846 Method 6020 EPA, and SW-846 Method 7471A for mercury.

3.5 Asbestos Sampling

A total of 28 potential ACM samples were collected from the piping, bricks, boiler, and glass window panes by a State of Michigan certified asbestos inspector. Nine of the samples (HA-001-HA-009) were noted as friable by the asbestos inspector. Samples HA-001, HA-002, HA-003 were collected from air cell insulation located near the south entrance of the west building. The asbestos inspector estimated the total quantity of air cell insulation material in this area to be 90 linear feet (LF). Samples HA-004, HA-005, HA-006 were collected from magnesia (MAG) piping in the basement boiler. The total quantity of MAG piping in the basement boiler was estimated to be 900 LF. Samples HA-007, HA-008, and HA-009 were collected from the MAG facing of the boiler located in the east building. The total quantity of MAG boiler facing material was estimated to be 1,440 square feet (ft²). Of the nine samples collected, only samples HA-001, HA-002, HA-003 were collected from loose, dangling, and on the floor potential ACM. The other six samples collected from the east building boiler and the basement boiler (HA-004 through HA-009) were collected from intact potential ACM. The asbestos inspector's sample description notes are included in Appendix C Asbestos Sample Summary Report. Potential ACM samples were relinquished and submitted to MDEQ for analysis of asbestos determination in accordance with EPA 600/R-93/116 Method.

4 SAMPLE ANALYTICAL RESULTS

START reviewed the sample analytical data and supporting quality assurance/quality control (QA/QC) data provided by STAT Analysis Corporation and performed data validation of the results. The validated analytical data package is included in Appendix E. Based on START's data validation, the data are acceptable for use as qualified.

The following section summarizes laboratory analytical results for samples collected during the Removal Assessment. For purposes of evaluating hazardous characteristics, sample analytical results were compared to the Code of Federal Regulations (CFR) sections 40 CFR § 261.21, § 261.22, § 261.23, and § 261.24 which verify the characteristics of a hazardous waste for ignitability, corrosivity, reactivity, and toxicity, respectively. Sample analytical results for amenable cyanide were compared to the Treatment Standards for Hazardous Wastes listed in 40 CFR 268.40. Table 3, Table 4, and Table 5 summarize all detected analytical sample results.

4.1 Liquid Sample Results

The results for liquid samples collected from the drums and containers indicated a pH of less than 2 standard units (SU) in all three samples analyzed for pH (DYM-DR-02, DYM-SC-01, and DYM-SC-02). The results of <2.0 SU, exhibits the characteristic of corrosivity and has the EPA Hazardous Waste Number of D002 as defined under 40 CFR § 261.22.

Analytical results from sample DYM-SC-03 documented liquid having a flash point temperature less than 32 degrees Fahrenheit (°F). A liquid exhibits the characteristic of ignitability and has the EPA Hazardous Waste Number of D001 as defined under 40 CFR § 261.21, if it has a flash point temperature of less than 140 °F. Analytical results for flashpoint and pH are shown in Table 4.

4.2 Solid Sample Results

Analytical results from sample DYM-DR-01 documented solids having a reactive cyanide detection of 1,500 milligrams per kilogram (mg/kg). The laboratory report also indicated that the solids from sample DYM-DR-01 effervesced and went through a color change upon addition of

strong acid. A solid waste exhibits the characteristic of reactivity as stated in 40 CFR § 261.23 if it is a cyanide bearing waste which, when exposed to pH conditions between 2 and 12.5, can generate toxic gases, vapors or fumes in a quantity to sufficient to present a danger to human health of the environment. The reactive cyanide result of 1,500 mg/kg indicates a cyanide bearing waste which exhibits the characteristic of reactivity and has the EPA Hazardous Waste Number D003. Sample DYM-DR-01 analytical results also indicated a cyanide amenable to chlorination concentration of 27,000 mg/kg, which was significantly above the amenable cyanide value for nonwastewaters of 30 mg/kg listed in 40 CFR 268.40 Treatment Standards for Hazardous Waste table. Sample analytical results for reactive and amenable cyanide are shown in Table 4.

Analytical results for TCLP metals indicated one cadmium detection above the TCLP limit of 1 milligram per liter (mg/L) as stated in 40 CFR § 261.24. The sample result for sample DYM-DR-01 indicated a cadmium concentration of 240 mg/L. The result of 240 mg/L exhibits the characteristic of toxicity and has the EPA Hazardous Waste Number of D006 as defined under 40 CFR § 261.24. TCLP analytical results are shown in Table 3.

Analytical results for the solid samples collected from the floor spill areas did not exceed MDEQ Direct Contact Criteria for non-residential soil listed in Table 3 of Part 201. Analytical results for PCBs did not indicate any PCB detections in the liquid samples collected from the floor pits.

4.3 Asbestos Sample Results

The results for samples collected from the piping, boiler, insulation, floor tile, window glass, and air cell insulation confirmed ACM in 14 of the 28 samples collected. ACM is defined by 15 USC 2642 as any material containing more than 1% asbestos by weight. All of the samples noted as friable by the asbestos inspector (HA-001 through HA-009) were confirmed to be ACM. Friable asbestos material is defined by 40 CFR §61.141 as any material containing more than 1% asbestos by weight that when dry can be crumbled or reduced to powder by hand pressure. Sample results from air cell insulation samples HA-001, HA-002, HA-003 indicated 30% chrysotile. The asbestos inspector estimated the total quantity of air cell insulation to be 90 LF. Sample results from basement boiler MAG piping samples HA-004, HA-005, and HA-006,

indicated 20% chrysotile and 2% crocidolite. The estimated total quantity of the basement boiler MAG piping is 900 LF. Samples results from the east building boiler MAG facing samples HA-007 and HA-008 indicated 20% chrysotile. Sample HA-007 also indicated 2% crocidolite. Sample HA-009 indicated the highest chrysotile detection in samples noted as friable at 25%. The total quantity of the east building boiler MAG facing material was estimated by the asbestos inspector to be 1,440 ft². The total estimated quantity of friable ACM was 990 LF and 1,440 ft². Friable asbestos is listed as a hazardous substance according to 40 CFR Part 302, Table 302.4. Asbestos sample analytical results are shown in Table 5.

5 POTENTIAL SITE RELATED THREATS

Threats posed by on-site contamination and Site conditions were evaluated in accordance with The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) criteria for initiating a removal action listed under Title 40 of the CFR, Section 300.415(b) (2). Paragraph (b) (2) of 40 CFR Section 300.415 lists factors to be considered when determining the appropriateness of a potential removal action at a site. Potential site-related threats to human health and the environment were evaluated based on the criteria listed in 40 CFR, Sections 261.21 through 261.24 and 40 CFR Part 302, Table 302.4. Factors that may be applicable to the Site are discussed below.

Actual or potential exposure of nearby human populations, animals, or the food chain to hazardous substances or pollutants or contaminants (40 CFR 300.415(b)(2)(i))

Analytical results of the samples collected during this removal assessment indicated corrosive, ignitable, toxic, and reactive characteristic waste at the Site. Some of the windows of the two buildings at the Site were boarded up to cover broken windows. The potential for trespassers is likely at the site as there were people walking around in the area and also based on the state's reporting of graffiti and gang activity. Vandalism was evident through the numerous broken windows identified during the site reconnaissance. Also, two previous fires occurred at the abandoned property, and their cause is not yet determined. The gaps in the fence, the broken and boarded up windows (vandalism), and undetermined fires point to actual or potential exposure to nearby human populations. Analytical results from samples DYM-DR-02, DYM-SC-01, and DYM-SC-02 indicate pH levels less than 2 SU. This result, per 40 CFR § 261.22, exhibits the characteristic of corrosivity (D002).

Analytical results from sample DYM-SC-03 indicated a flash point temperature of less than 140 °F. This result, per 40 CFR § 261.21, exhibits the characteristic of ignitability (D001).

Sample DYM-DR-01 analytical results indicated a cadmium concentration above the TCLP limit of 1 mg/L at 240 mg/L. This result, per 40 CFR § 261.24, exhibits the hazardous waste characteristic of toxicity (D006).

Cadmium is a naturally occurring element found in the earth's crust. It has many uses including batteries, pigments, metal coatings and plastics. Humans exposed to high levels of cadmium through inhalation or ingestion may experience severe damage to the lungs and stomach irritation leading to vomiting and diarrhea. The Department of Health and Human Services (DHHS) has determined that cadmium is a known human carcinogen (ATSDR, 2012).

Analytical results from sample DYM-DR-01 documented solids having a reactive cyanide detection of 1,500 mg/kg. According to 40 CFR 261.23 a cyanide or sulfide bearing waste which, when exposed to pH conditions between 2 and 12.5, can generate toxic gases, vapors or fumes in a quantity sufficient to present a danger to human health or the environment. The laboratory report indicated that the solids from sample DYM-DR-01 effervesced and went through a color change upon addition of strong acid. This effervescence reaction of the cyanide sample with acid meets the definition of a hazardous characteristic per 40 CFR § 261.23 - specifically the hazardous waste characteristic of reactivity (D003). The National Institute for Occupational Safety and Health (NIOSH) states that sodium cyanide (as CN) is an Immediate Danger to Life and Health (IDLH) at concentrations of 25 milligrams per meter cube (mg/m³). Sample DYM-DR-01 results indicated a cyanide concentration of 27,000 mg/kg. This cyanide concentration under right conditions could potentially release poisonous gases exceeding the IDLH value and be fatal to human populations. This cyanide concentration is also significantly above the amenable cyanide value for nonwastewaters of 30 mg/kg listed in 40 CFR 268.40 Treatment Standards for Hazardous Waste table.

The drum labeled "Sodium Cyanide" from which sample DYM-DR-01 was collected, was located in the same room as the "Oxidizer" drum from which sample DYM-DR-02 was collected. Sample results from sample DYM-DR-02 indicated a pH less than 2 SU. Both the "Sodium Cyanide" and the "Oxidizer" labeled drums were beginning to show signs of deterioration, such as rust.

Cyanide is usually found joined with other chemicals to form compounds. Cyanide is used in electroplating, metallurgy, manufacture of plastics, and some mining processes. Humans exposed to high levels of cyanide may experience heart and brain damage, coma, and death (ATSDR,

2006).

The analytical results for the potential ACM samples collected from the piping, boiler, insulation, floor tile, window glass, and air cells confirmed ACM in 14 of the 28 samples collected. Out of the 14 confirmed ACM samples, nine samples were noted as friable by the asbestos inspector. Of the nine samples noted as friable, samples HA-001, HA-002, and HA-003 were collected from loose and dangling air cell insulation located near the south entrance of the west building. Sample results from those three samples indicated 30% chrysotile. The other confirmed friable ACM samples (HA-004 through HA-009) were collected from the boiler insulation and facing. Friable asbestos is a listed hazardous substance according to 40 CFR Part 302, Table 302.4.

Asbestos is the name of a group of six fibrous minerals (amosite, chrysotile, crocidolite, tremolite, actinolite, and anthrophyllite) that naturally occur in the environment. Asbestos has historically been used in building materials, friction products, heat-resistant fabrics, packaging, gaskets, and coatings. Human exposure to asbestos through inhalation may result in scar-like tissue in the lungs and the pleural membrane (lining) surrounding the lung. The DHHS, the World Health Organization (WHO), and the EPA have determined that asbestos is a human carcinogen (ATSDR, 2001).

The presence of confirmed hazardous material, the potential breach areas, and the history of fires at the Site pose a threat to current and nearby residents and to trespassers through direct exposure. Human contact with these materials can result in exposure to corrosive, ignitable, toxic, and reactive hazardous materials.

Hazardous substances or pollutants or contaminants in drums, barrels, tanks, or other bulk storage containers that may pose a threat of release (40 CFR 300.415(b)(2)(iii))

During the Site investigation, U.S. EPA and START observed and documented the presence of 86 55-gallon drum and 118 small containers (35-gallons or less). Containers with labels such as “sodium cyanide”, “oxidizer”, and “corrosive” were present at the Site. Numerous containers were in poor and dilapidated condition. Samples exhibiting the hazardous waste characteristics

of ignitability, reactivity, corrosivity, and toxicity (DYM-DR-01, DYM-DR-02, and DYM-SC-03) were collected from rusted drums or containers (see photograph 21-26). These drums could continue to rust and potentially release hazardous characteristic materials and/or related gases.

Analytical results of the samples confirmed the presence of ignitable, corrosive, and reactive hazardous waste at the Site. Drum contents were observed spilled onto the floor inside the buildings at the Site. Some containers were open without a lid and deteriorating. Continued deterioration of the containers on-site may lead to the release of hazardous substances and migration of the hazardous material to off-site locations. In addition to this, the deteriorating drum conditions can potentially lead to mixing of oxidizer and sodium cyanide chemicals and release of potential poisonous gases that could migrate to off-site locations and pose an IDLH threat to nearby residents.

Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released (40 CFR 300.415(b)(2)(v))

Existing weather conditions coupled with the areas accessible to precipitation at the Site may cause the hazardous substances described above to migrate or be released. The broken and boarded up windows, openings in the roof, and large puddles of water at the Site indicate precipitation at the Site. Muskegon, Michigan receives an average annual rainfall of 33.51 inches per year and an average annual snowfall of 93 inches (USclimatedata.com, 2016). The water from the roof leaks coupled with weather conditions could enable further rusting of the drums causing hazardous substances to be released at the Site. There are cyanide bearing drums at the Site with reactive cyanide material in them that when released due to rusting conditions could come in contact with similarly released acids from drums and potentially release cyanide gases. Cyanide gas is a poisonous gas and is lethal to human beings at or above the IDLH concentration of 25 mg/m³. The result of 1,500 mg/kg reactive cyanide can be released to the air.

Friable ACM is present in the boiler insulation and in loose, dangling insulation, and the floor material. Sample results from those three samples indicated 30% chrysotile. Fallen, loose and dangling ACM are indicative of deteriorating insulation and could become air borne and migrate to off-site areas posing potential exposure threats to human populations from friable ACM.

Threat of fire or explosion (40 CFR 300.415(b)(2)(vi))

Analytical results from sample DYM-SC-03 indicated a flash point temperature of less than 140 °F. This result, per 40 CFR § 261.21, exhibits the characteristic of ignitability (D001). The drum labeled “Regular Mineral Spirits” located in the southeast corner of the east building also poses a threat of fire or explosion. While it was not sampled, the material safety and data sheet (MSDS) for Regular Mineral Spirits states the flashpoint as 108°F, which exhibits the characteristic of ignitability (CITGO, 2009). There have been two fires reported to have occurred at the Site in the past 5 years according to local media outlets (MLive.com, 2014; The Muskegon Chronicle, 2011). Any fire at the Site has the potential to release hazardous material to the atmosphere and expose nearby residents to the toxic fumes related to the fire.

6 SUMMARY

U.S. EPA and START conducted a removal assessment at the Dymet Site located in Muskegon, Michigan on May 17th and May 18th, 2016. Field screening with a PID for VOCs was performed on drum and other container contents prior to sampling. During sampling, one liquid and one solid drum sample, two liquid floor pit samples, three liquid small container samples, four solids samples, and 28 asbestos samples collected. Liquid and solid samples were submitted to an analytical laboratory for pH, reactivity, and flashpoint determination, TCLP metals plus zinc, copper, and nickel, Total metals plus zinc, copper, and nickel, amenable cyanide, PCBs, and asbestos analyses.

The pH results for samples collected from the drums and containers indicated a pH of less than 2 standard units (SU) in all three of the samples analyzed for pH (DYM-DR-02, DYM-SC-01, and DYM-SC-02). The result according to 40 CFR § 261.22 exhibits the characteristic of a hazardous waste for corrosivity. Analytical results from sample DYM-SC-03 documented liquid having flash point less than 140 °F, which, according to 40 CFR § 261.21, exhibits the characteristic of a hazardous waste for ignitability. Information provided by the MSDS for Regular Mineral Spirits also identifies the drum labeled as “Regular Mineral Spirits” located in the east building as containing a liquid with a flash point of less than 140 °F, exhibiting the characteristic for ignitability.

The TCLP analytical results for the sample DYM-DR-01 indicated a cadmium concentration above the TCLP limit of 1 mg/L in this sample at 240 mg/L. This result, per 40 CFR § 261.24, exhibits the hazardous waste characteristic of toxicity.

Analytical results from sample DYM-DR-01 documented solids having a reactive cyanide detection of 1,500 mg/kg. According to 40 CFR 261.23 a cyanide or sulfide bearing waste which, when exposed to pH conditions between 2 and 12.5, can generate toxic gases, vapors or fumes in a quantity sufficient to present a danger to human health or the environment. NIOSH states Sodium Cyanide (as CN) is an IDLH at 25 mg/m³. Sample DYM-DR-01 results also indicated a cyanide concentration of 27,000 mg/kg, significantly above the amenable cyanide value for nonwastewaters of 30 mg/kg listed in 40 CFR 268.40 Treatment Standards for

Hazardous Waste table.

Abandoned drums, containers, floor solids, floor pits, and ACM are present on the abandoned Dymet property. Based on the proximity of residential and recreational properties coupled with the potential breach areas and the history of fires, the ACM, corrosive, ignitable, toxic, and reactive wastes pose a potential direct contact threat to the public. The ignitable waste also poses an additional potential threat of fire and release to the environment.

REFERENCES

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APPENDICES

APPENDIX A

TABLES

Table 2 Removal Assessment Sample Analysis Summary Dymet Site Muskegon, Muskegon County, Michigan				
Sample ID	Collection Date	Sample Location	Matrix	Laboratory Analysis^a
DYM-DR-01	5/17/2016	Drum labeled Sodium Cyanide	Solid	Amenable Cyanide, Total Metals, and Reactivity
DYM-DR-02	5/17/2016	Drum labeled Oxidizer	Liquid	Corrosivity
DYM-FLP-01	5/18/2016	Floor Pit	Liquid	Total Metals, PCBs, and TCLP metals
DYM-FLP-02	5/18/2016	Floor Pit	Liquid	Total Metals, PCBs, and TCLP metals
DYM-SOL-03	5/18/2016	Container Solids	Solid	Total Metals and TCLP metals
DYM-SOL-05	5/18/2016	Floor Solids	Solid	Total Metals and TCLP metals
DYM-SOL-06	5/18/2016	Container Solids	Solid	Total Metals and TCLP metals
DYM-SOL-07	5/18/2016	Floor Solids	Solid	Total Metals and TCLP metals
DYM-SC-01	5/18/2016	Small Container labeled Muriatic Acid	Liquid	Corrosivity
DYM-SC-02 ^b	5/18/2016	Small Container labeled Muriatic Acid	Liquid	Corrosivity
DYM-SC-03	5/18/2016	labeled Acrylic Enamel Reducer	Liquid	Flammability

Notes:

^a All samples submitted for Total and TCLP Metals analyses also included zinc, copper,

^b Sample DYM-SC-02 is the duplicate sample of sample DYM-SC-01

DYM Dymet Site
 DR Drum Sample
 FLP Floor Pit Sample
 SOL Solids Sample
 SC Small Container Sample
 TCLP Toxicity Characteristic Leaching Procedure
 PCBs Polychlorinated Biphenyls

Samples were submitted to STAT Analysis laboratory for analysis under TDD No. S05-0001-16-05-001.

Table 3
Sample TCLP Analytical Results
Dymet Site

Muskegon, Muskegon County, Michigan

Sample ID			DYM-DR-01	DYM-FLP-01	DYM-FLP-02	DYM-SOL-03	DYM-SOL-05	DYM-SOL-06	DYM-SOL-07
Collection Date			5/17/2016	5/18/2016	5/18/2016	5/18/2016	5/18/2016	5/18/2016	5/18/2016
Analysis Method	Analyte (mg/L)	TCLP (mg/L)	Result Concentration (mg/L)						
SW6020	Arsenic	5	< 5.0	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
SW6020	Barium	100	< 25	< 0.050	0.086	< 0.050	0.35	< 0.050	< 0.050
SW6020	Cadmium	1	240	0.069	< 0.010	< 0.010	0.3	0.039	< 0.010
SW6020	Chromium	5	< 5.0	< 0.010	< 0.010	< 0.010	0.013	0.033	< 0.010
SW6020	Copper	*	< 50	3	7	< 0.10	270	< 0.10	0.35
SW6020	Lead	5	3.1	0.043	0.041	< 0.0050	0.39	< 0.0050	< 0.0050
SW6020	Nickel	*	< 5.0	0.08	0.15	0.69	3.9	0.99	0.59
SW6020	Selenium	1	< 5.0	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
SW6020	Silver	5	< 5.0	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
SW6020	Zinc	*	< 25	4.6	1	0.69	100	3.3	< 0.050
SW7470A	Mercury	0.2	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	0.00020 U

Notes:

DYM Dymet Site
DR Drum Sample
FLP Floor Pit Sample
SOL Solids Sample
mg/L milligram per liter
< Less than
* TCLP value not provided

bold/highlighted Sample result detected exceeding the TCLP limit.

Samples were compared to the Toxicity Characteristic Leaching Procedure (TCLP) limits as stated in 40 CFR § 261.24.

Samples were submitted to STAT Analysis laboratory for analysis under TDD No. S05-0001-16-05-001.

Table 4 Flashpoint, pH, and Cyanide Analytical Results Dymet Site Muskegon, Muskegon County, Michigan						
Parameter	40 CFR § 261.21, 261.22, 261.24, and 268.40	Sample Identification				
		DYM-DR-01	DYM-DR-02	DYM-SC-01	DYM-SC-02 ^a	DYM-SC-03
Collection Date			5/17/2016	5/18/2016	5/18/2016	5/18/2016
Flashpoint (°F)	<140 °F					<32
pH (SU)	≤2 or ≥12.5		<2.0	<2.0	<2.0	
Reactive Cyanide (mg/kg)	*	1500				
Amenable Cyanide (mg/kg)	30	27,000				

Notes:

< Less than
≤ Less than or equal to
≥ Greater than or equal to
DYM Dymet Site
DR Drum Sample
SC Small Container Sample
°F Fahrenheit
SU Standard Unit
mg/kg milligram per kilogram

^a Sample DYM-SC-02 is the duplicate sample of DYM-SC-01.

* Numeric value not provided in 40 CFR 261.23 (a)(5)

bold/highlighted= Sample result detected as meeting requirements of characteristic hazardous waste or exceeding Treatment Standards for Hazardous Waste.

Samples were compared to the characteristics of a hazardous waste for ignitability, corrosivity, and reactivity criteria as stated in 40 CFR § 261.21, 261.22, and 261.23.

Sample DYM-DR-01 was compared to the Treatment Standards for Hazardous Waste listed in 40 CFR 268.40

Samples were submitted to STAT Analysis laboratory for analysis under TDD No. S05-0001-16-05-001.

Table 5 Asbestos Sample Results Dymet Site Muskegon, Muskegon County, Michigan						
Sample ID	Sample Description		Quantity	Friable Material (Y/N)	Chrysotile (%)	Crocidolite (%)
HA-001	Air Cell		30 LF	Y	30	<1
HA-002	Air Cell		30 LF	Y	30	<1
HA-003	Air Cell		30 LF	Y	30	<1
HA-004	MAG Piping		300 LF	Y	20	2
HA-005	MAG Piping		300 LF	Y	20	2
HA-006	MAG Piping		300 LF	Y	20	2
HA-007	MAG Facing	Canvas	480 ft ²	Y	<1	<1
		Wrap			<1	<1
		Gray			20	2
		White			20	<1
HA-008	MAG Facing	Wrap	480 ft ²	Y	<1	<1
		Gray			20	<1
		White			<1	<1
HA-009	MAG Facing	Canvas	480 ft ²	Y	<1	<1
		Mud			25	<1
HA-010	Floor Tile + Mastic	Tile	2,250 ft ²	N	3	<1
		Mastic				<1
HA-011	Floor Tile + Mastic	Tile	2,250 ft ²	N	3	<1
		Mastic			<1	<1
		Glue			<1	<1
HA-012	Floor Tile + Mastic	Tile	2250 ft ²	N	3	<1
		Mastic			<1	<1
HA-013	Insulation		N/A	N	<1	<1
HA-014	Wall Coating		12,000 ft ²	N	<1	<1
HA-015	Wall Coating	White	12,000 ft ²	N	<1	<1
		Tan			<1	<1

Notes:

bold/highlighted= Sample result detected above reporting limit

N/A Not applicable

LF Linear feet

ft² Square feet

Friable asbestos material is defined by 40 CFR §61.141 as any material containing more than 1% asbestos by weight that when dry can be crumbled or reduced to powder by hand pressure.

Samples were analyzed in accordance with test methods EPA 600/R-93/116 Method.

Samples were collected on May 17, 2016 and submitted to Michigan OSHA/Occupational Health Laboratory for analysis under TDD No. S05-0001-16-05-001.

Table 5 continued Asbestos Sample Results Dymet Site Muskegon, Muskegon County, Michigan						
Sample ID	Sample Description		Quantity	Friable Material (Y/N)	Chrysotile (%)	Crocidolite (%)
HA-016	Wall Coating	White	12,000 ft ²	N	<1	<1
		Tan			<1	<1
HA-017	Lathe	White	1,000 ft ²	N	<1	<1
		Tan			<1	<1
HA-018	Lathe	White	1,000 ft ²	N	<1	<1
		Tan			<1	<1
HA-019	Lathe	White	1,000 ft ²	N	<1	<1
		Tan			<1	<1
HA-020	Furnace Brick		3,280 ft ²	N/A	<1	<1
HA-021	External Insulation		N/A	N/A	<1	<1
HA-022	External Insulation		N/A	N/A	<1	<1
HA-023	Pipe Run	White	20 LF	N/A	20	<1
		Tan			<1	<1
HA-024	Pipe Run Elbow	Canvas	20 LF	N/A	<1	<1
		Gray			25	<1
		Brown			10	<1
HA-025	Glass Glaze		N/A	N/A	<1	<1
HA-026	Drywall	Paper	N/A	N/A	<1	<1
		Gypsum			<1	<1
HA-027	Drywall	Paper	N/A	N/A	<1	<1
		Gypsum			<1	<1
HA-028	Drywall		N/A	N/A	<1	<1

Notes:

bold/highlighted= Sample result detected above reporting limit

N/A Not Applicable

LF Linear feet

ft² Square feet

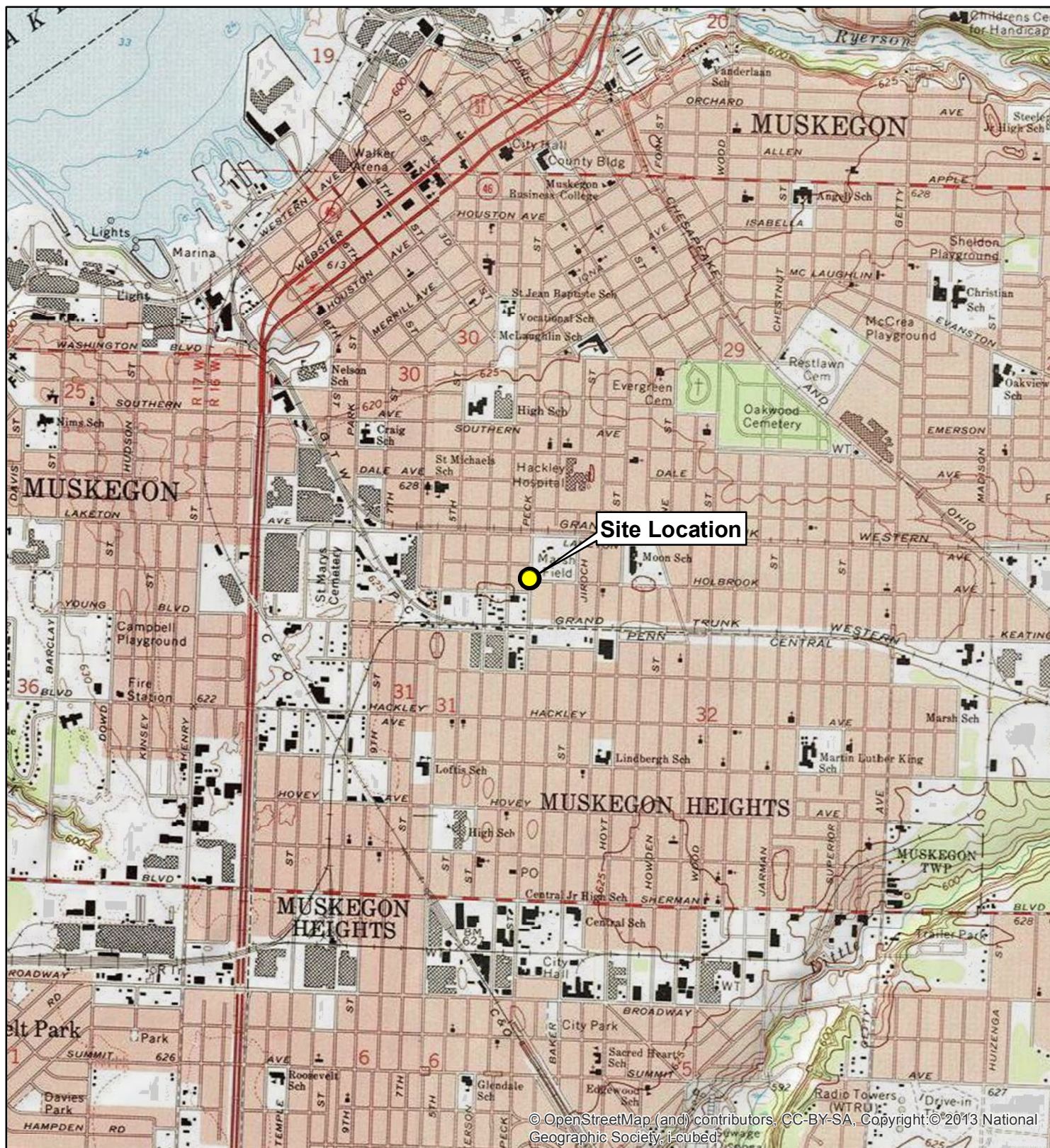
Friable asbestos material is defined by 40 CFR §61.141 as any material containing more than 1% asbestos by weight that when dry can be crumbled or reduced to powder by hand pressure.

Samples were analyzed in accordance with test methods EPA 600/R-93/116 Method.

Samples were collected on May 17, 2016 and submitted to Michigan OSHA/Occupational Health Laboratory for analysis under TDD No. S05-0001-16-05-001.

APPENDIX B

FIGURES



GIS\workspace\2016 Projects\2016001 - SRS\Dymet\Figure 1 - Site Location Map.mxd

USGS 7.5 MINUTE SOURCE QUAD MAPS (OHIO): GRAND RAPIDS

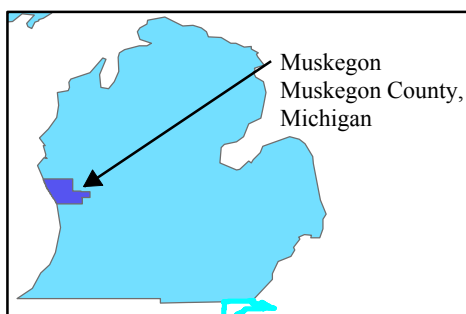
Disclaimer: This map is intended for visual orientation use only.
In no way is this map to be used for precise locational use.

Legend

 Site Location



0 2,000 4,000 Feet



United States Environmental Protection Agency

DYMET SITE
MUSKEGON, MUSKEGON COUNTY, MI
TDD No. S05-0001-16-05-001

FIGURE 1
SITE LOCATION MAP





Disclaimer: This map is intended for visual orientation use only.
In no way is this map to be used for precise locational use.

Legend



Site Boundary



0 150 300 Feet

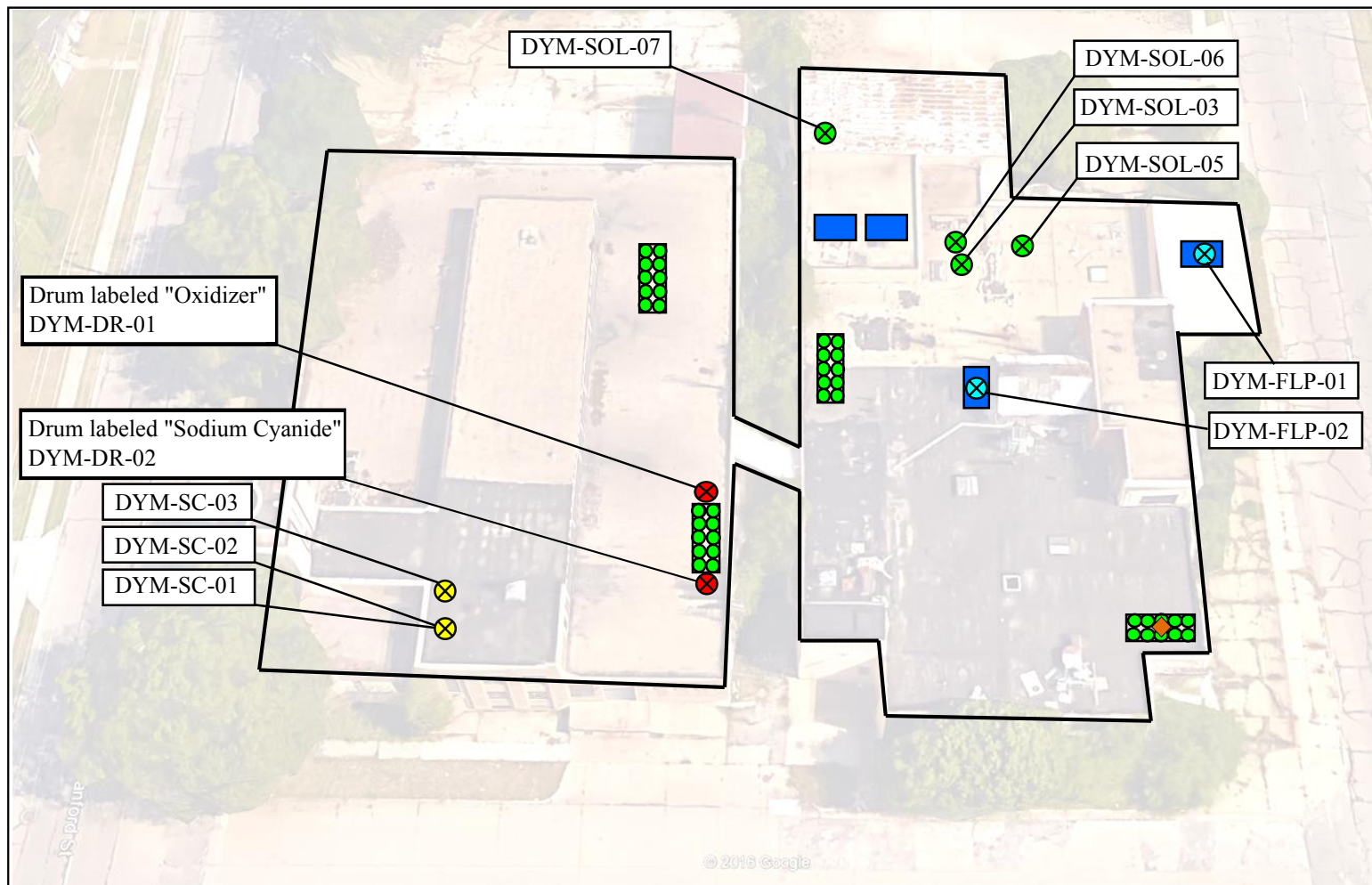


United States Environmental Protection Agency

DYMET SITE
MUSKEGON, MUSKEGON COUNTY, MI
TDD No. S05-0001-16-05-001

**FIGURE 2
SITE FEATURES MAP**













ARIAL SOURCE: GOOGLE EARTH

Disclaimer: This map is intended for visual orientation use only.
In no way is this map to be used for precise locational use.

Legend

- | | |
|---|--|
|  Solids Sample Location |  Multiple Drums |
|  Floor Pit Sample Location |  Floor Pit |
|  Drum Sample Location |  Dymet Site |
|  Small Container Sample Location |  55-gallon drum labeled "Regular Mineral Spirits" |

0 50 100 Feet



United States Environmental Protection Agency

DYMET SITE
MUSKEGON, MUSKEGON COUNTY, MI
TDD No. S05-0001-16-05-001

FIGURE 3
SAMPLE LOCATIONS MAP



APPENDIX C
ASBESTOS SAMPLE SUMMARY REPORT

ASBESTOS HOMOGENEOUS AREA SUMMARY REPORT

Homogeneous Area Number	Homogeneous Area Description	Asbestos Content	Quantity LF=Linear Feet SF=Square Feet	Friable Material (Y/N)
HA-001	South Entrance	AIR CELL	30 LF	Y
HA-002	South Entrance	AIR CELL	30 LF	Y
HA-003	South Entrance	AIR CELL	30 LF	Y
HA-004	Basement Boiler	MAG-piping	300 LF	Y
HA-005	Basement Boiler	MAG-piping	300 SF	Y
HA-006	Basement Boiler	MAG-piping	300 LF	Y
HA-007	Boiler	MAG-facing	400 ft ²	Y
HA-008	Boiler	MAG-facing	400 ft ²	Y
HA-009	Boiler	MAG-facing	400 ft ²	Y
HA-010	FLOOR Tile & mastic - lobby & office	lobby & office	2250 ft ²	N
HA-011	Floor tile & mastic	lobby & office	2250 ft ²	N
HA-012	Floor tile & mastic	lobby & office	2250 ft ²	N
HA-013	Insulation	office		N
HA-014	Insulation Wall Coating	office	12000 ft ²	N
HA-015	Insulation Wall Coating	office	12000 ft ²	N
HA-016	Wall Coating	office	12000 ft ²	N

HA-017	Vestibule Ceiling	Lathe	1000 ft ²	N
HA-018	Vestibule Ceiling	Lathe	1000 ft ²	N
HA-019	Vestibule Ceiling	Lathe	1000 ft ²	N

HA-20 Furnace Room

Furnace
Fire
Brick
(suspect
media)

+ 3200 ft²

ASBESTOS HOMOGENEOUS AREA SUMMARY REPORT

Homogeneous Area Number	Homogeneous Area Description	Asbestos Content	Quantity LF=Linear Feet SF=Square Feet	Friable Material (Y/N)
HA-001	Furnace Room	external insulation fire brick external insulation fire brick		
HA-002	Furnace Room	fire brick external insulation fire brick		
HA-003	pipe run - print shop	roof drain	20LF	
HA-004	pipe run - elbow	roof drain	20LF	
HA-005	pipe run glass block glaze	all windows		
HA-006	dry wall	throughout offices		
HA-007	dry wall	throughout offices		
HA-008	dry wall	throughout offices		
HA-009				
HA-010				
HA-011				
HA-012				
HA-013				
HA-014				
HA-015				
HA-016				

Air/Material Sampling Report

Michigan Department of Licensing and Regulatory Affairs

Michigan OSHA/Occupational Health Laboratory

1. Reporting ID Dymet				2. Inspection/Visit/Intervention Number				3. Sampling Number										
4. Establishment Name DYMET				5. Public/Private (For Consultation use only) <input type="checkbox"/> Self-Help <input checked="" type="checkbox"/> Public <input type="checkbox"/> Private														
6. Person Performing Sampling (Signature) <i>Teresa Ducsay (John Pomroy)</i>				7. CSHO ID		8. Sampling Date 5-17-16		9. Shipping Date										
10. Employee Name: Teresa Ducsay				11. Job Title: EQA-12														
12. Exposure Information		a. Number:		b. Frequency:		13. Photo(s)		<input type="checkbox"/> Yes <input type="checkbox"/> No										
Exposure Summary																		
14. Line No.	15. Substance Code	16. Rqstd.	17. Smpl. Type	18. Exp. Type	19. Exposure Level	20. Units	21. PEL	22. Adj.	23. Severity	24. Citation/Hazard Information								
										No Cit.	FTA	Over Exp.	Eng.	PPE	Trng.	Med.	Other	No Haz.
1.																		
2.																		
3.																		
4.																		
5.																		
25. Additives (Enter Line Numbers for those agents contributing to additive effect)																		
26. Total Number of Lines (14):						27. Date Results Received from Laboratory:												
28. Pump Model:				Pump #:				Sampling Data										
29. Sample Submission Number				HA-001		HA-002		HA-003		HA-004		HA-005		HA-006				
30. Sample Type/Media				Air Cell		Air Cell		Air Cell		MAG Piping		MAG Piping		MAG Piping				
31. Filter/Tube Number																		
32. Time On																		
Time Off																		
33. Total Time (in minutes)																		
34. Flow Rate <input type="checkbox"/> l/min <input type="checkbox"/> ml/min																		
35. Volume (in liters)																		
36. Lab Sample Number				162239		162240		162241		162242		162243		162244				
37. Analyze For:				38. RL*		Results												
1. 9020		5/26/16		1%		30 chrysotile		30 chrysotile		30 chrysotile		20 chrysotile		20 chrysotile		20 chrysotile		
2.												2 crocidolite		2 crocidolite		2 crocidolite		
3.																		
4.																		
5.																		
39. Results expressed in % unless otherwise noted.				40. Test Method: 0412004 M9020 M01V3.1														
41. Interferences and IH Comments to Lab				42. Supporting Samples				43. Chain of Custody				Date		Initials				
44. Analyst's Comments F2016 0290				a. Blanks:				a. Seals Intact?				Y <input type="checkbox"/> N <input checked="" type="checkbox"/>		AA				
								b. Rec'd in Lab				5/19/16		AA				
								c. Rec'd by Anal.				5/25/16		AA				
								d. Anal. Completed				5/26/16		AA				
								e. Calc. Checked				5-27-16		AA				
								f. Supr. OK'd				5-27-16		AA				
* Reporting Limit				Samples NOT blank corrected unless otherwise indicated. Results relate only to the items tested.														

Air/Material Sampling Report

Michigan Department of Licensing and Regulatory Affairs

Michigan OSHA/Occupational Health Laboratory

1. Reporting ID <i>Dymet</i>				2. Inspection/Visit/Intervention Number				3. Sampling Number			
4. Establishment Name DYMET								5. Public/Private (For Consultation use only) <input type="checkbox"/> Self-Help <input checked="" type="checkbox"/> Public <input type="checkbox"/> Private			
6. Person Performing Sampling (Signature) <i>Teresa Ducsay (John Pomroy)</i>						7. CSHO ID		8. Sampling Date 5-17-16		9. Shipping Date	
10. Employee Name: <i>Teresa Ducsay</i>						11. Job Title: <i>EQA-12</i>					
12. Exposure Information				a. Number:		b. Frequency:		13. Photo(s) <input type="checkbox"/> Yes <input type="checkbox"/> No			
Exposure Summary											
14. Line No.	15. Substance Code	16. Rqstd.	17. Smpl. Type	18. Exp. Type	19. Exposure Level	20. Units	21. PEL	22. Adj.	23. Severity	24. Citation/Hazard Information	
										No Cit.	FTA
										Over Exp.	Eng.
										PPE	Trng.
										Med.	Other
										No Haz.	
1.											
2.											
3.											
4.											
5.											
25. Additives (Enter Line Numbers for those agents contributing to additive effect)											
26. Total Number of Lines (14):						27. Date Results Received from Laboratory:					
28. Pump Model:				Pump #:				Sampling Data			
29. Sample Submission Number				HA-007 HA-008 HA-009 HA-010 HA-011 HA-012							
30. Sample Type/Media				MAG Facing MAG Facing MAG Facing Floor Tile + mastic Floor Tile + mastic Floor Tile + mastic							
31. Filter/Tube Number											
32. Time On											
Time Off											
33. Total Time (in minutes)											
34. Flow Rate <input type="checkbox"/> l/min <input type="checkbox"/> ml/min											
35. Volume (in liters)											
36. Lab Sample Number				162245 162246 162247 162248 162249 162250							
37. Analyze For:				38. RL*				Results			
1. 9020 <i>Am 907 5/26/16</i>				10%				NDL - canvas 20 chrysotile - gray NDL - canvas 3 chrysotile - tile NDL - glue 3 chrysotile - tile			
2.								NDL - wrap NDL - wrap 25 chrysotile - mud NDL - mastic 3 chrysotile - tile NDL - mastic			
3.								20 chrysotile - gray NDL - white NDL - mastic			
4.								20 chrysotile - white			
5.								20 white - white			
39. Results expressed in % unless otherwise noted.						40. Test Method: <i>OHL2004 M9020.10 ALV3.1</i>					
41. Interferences and IH Comments to Lab				42. Supporting Samples				43. Chain of Custody			
				a. Blanks:				a. Seals Intact? Y <input checked="" type="checkbox"/> N <input type="checkbox"/> AA			
								b. Rec'd in Lab 5/19/16 AA			
								c. Rec'd by Anal. 5/25/16 <i>Am 907</i>			
44. Analyst's Comments <i>F2016 0290</i>				b. Bulks:				d. Anal. Completed 5/26/16 <i>Am 907</i>			
								e. Calc. Checked 5-27-16 <i>Am 907</i>			
								f. Supr. OK'd 5-27-16 <i>Am 907</i>			
* Reporting Limit				Samples NOT blank corrected unless otherwise indicated. Results relate only to the items tested.							

Air/Material Sampling Report

Michigan Department of Licensing and Regulatory Affairs

Michigan OSHA/Occupational Health Laboratory

1. Reporting ID Dymet				2. Inspection/Visit/Intervention Number				3. Sampling Number																		
4. Establishment Name DYMET				5. Public/Private (For Consultation use only) <input type="checkbox"/> Self-Help <input checked="" type="checkbox"/> Public <input type="checkbox"/> Private																						
6. Person Performing Sampling (Signature) <i>Teresa Ducsay (John Pomroy)</i>				7. CSHO ID		8. Sampling Date 5-17-16		9. Shipping Date																		
10. Employee Name: Teresa Ducsay				11. Job Title: EQA-12																						
12. Exposure Information		a. Number:		b. Frequency:		13. Photo(s) <input type="checkbox"/> Yes <input type="checkbox"/> No																				
Exposure Summary																										
14. Line No.	15. Substance Code	16. Rqstd.	17. Smpl. Type	18. Exp. Type	19. Exposure Level	20. Units	21. PEL	22. Adj.	23. Severity	24. Citation/Hazard Information																
										No Cit.	FTA	Over Exp.	Eng.	PPE	Trng.	Med.	Other	No Haz.								
1.																										
2.																										
3.																										
4.																										
5.																										
25. Additives (Enter Line Numbers for those agents contributing to additive effect)																										
26. Total Number of Lines (14):						27. Date Results Received from Laboratory:																				
28. Pump Model:						Pump #:			Sampling Data																	
29. Sample Submission Number						HA-013			HA-014			HA-015			HA-016			HA-017			HA-018					
30. Sample Type/Media						Insulation			Wall Coating			Wall Coating			Wall Coating			Lathe			Lathe					
31. Filter/Tube Number																										
32. Time On																										
Time Off																										
33. Total Time (in minutes)																										
34. Flow Rate <input type="checkbox"/> l/min <input type="checkbox"/> ml/min																										
35. Volume (in liters)																										
36. Lab Sample Number						162251			162252			162253			162254			162255			162256					
37. Analyze For:						38. RL* Results																				
1. 9020 <i>Aug 47</i> 5/26/16						1%			NDL			NDL			NDL-white			NDL-white			NDL-white			NDL-white		
2.												NDL-tan			NDL-tan			NDL-tan			NDL-tan					
3.																										
4.																										
5.																										
39. Results expressed in % unless otherwise noted.						40. Test Method: 0422004 M9020 MO PLV3.1																				
41. Interferences and IH Comments to Lab						42. Supporting Samples				43. Chain of Custody				Date		Initials										
44. Analyst's Comments F20160291						a. Blanks:				a. Seals Intact?				Y N		AA										
										b. Rec'd in Lab				5/19/16		AA										
										c. Rec'd by Anal.				5/26/16		Aug 47										
										d. Anal. Completed				5/26/16		Aug 47										
										e. Calc. Checked				5-27-16		Aug 47										
										f. Supr. OK'd				5-27-16		Aug 47										
* Reporting Limit						Samples NOT blank corrected unless otherwise indicated. Results relate only to the items tested.																				

Air/Material Sampling Report

Michigan Department of Licensing and Regulatory Affairs

Michigan OSHA/Occupational Health Laboratory

1. Reporting ID <i>Dymet</i>		2. Inspection/Visit/Intervention Number		3. Sampling Number	
4. Establishment Name <i>DYMET</i>				5. Public/Private (For Consultation use only) <input type="checkbox"/> Self-Help <input checked="" type="checkbox"/> Public <input type="checkbox"/> Private	
6. Person Performing Sampling (Signature) <i>Teresa Ducsay (John Pomroy)</i>				7. CSHO ID	8. Sampling Date <i>5-17-16</i>
10. Employee Name: <i>Teresa Ducsay</i>				11. Job Title: <i>EQA-12</i>	
12. Exposure Information		a. Number:		b. Frequency:	
13. Photo(s) <input type="checkbox"/> Yes <input type="checkbox"/> No					

Exposure Summary

14. Line No.	15. Substance Code	16. Rqstd.	17. Smp. Type	18. Exp. Type	19. Exposure Level	20. Units	21. PEL	22. Adj.	23. Severity	24. Citation/Hazard Information									
										No Cit.	FTA	Over Exp.	Eng.	PPE	Trng.	Med.	Other	No Haz.	
1.																			
2.																			
3.																			
4.																			
5.																			
25. Additives (Enter Line Numbers for those agents contributing to additive effect)																			

26. Total Number of Lines (14):				27. Date Results Received from Laboratory:													
28. Pump Model:				Pump #:		Sampling Data											
29. Sample Submission Number				<i>HA-019</i>		<i>HA-020</i>		<i>HA-021</i>		<i>HA-022</i>		<i>HA-023</i>		<i>HA-024</i>			
30. Sample Type/Media				<i>Lathe</i>		<i>Furnace Brick</i>		<i>External Insulation</i>		<i>External Insulation</i>		<i>Pipe Run</i>		<i>Pipe Run Elbow</i>			
31. Filter/Tube Number																	
32. Time On																	
Time Off																	
33. Total Time (in minutes)																	
34. Flow Rate <input type="checkbox"/> l/min <input type="checkbox"/> ml/min																	
35. Volume (in liters)																	
36. Lab Sample Number				<i>162257</i>		<i>162258</i>		<i>162259</i>		<i>162260</i>		<i>162261</i>		<i>162262</i>			
37. Analyze For:				38. RL*		Results											
1. <i>9020 Aug 17 5/26/16</i>				<i>1%</i>		<i>NDL-white</i>		<i>NDL</i>		<i>NDL</i>		<i>NDL</i>		<i>NDL-tan</i>		<i>NDL-canvas</i>	
2.						<i>NDL-tan</i>								<i>20 chrysotile-white</i>		<i>25 chrysotile gray</i>	
3.																<i>10 chrysotile-brown</i>	
4.																	
5.																	

39. Results expressed in <i>%</i> unless otherwise noted.				40. Test Method: <i>OH L2004 M9020 M OPLV3.1</i>											
41. Interferences and IH Comments to Lab				42. Supporting Samples				43. Chain of Custody				Date		Initials	
44. Analyst's Comments <i>FZ016 0291</i>				a. Blanks:				a. Seals Intact?				<i>Y</i>		<i>AA</i>	
								b. Rec'd in Lab				<i>5/19/16</i>		<i>AA</i>	
								c. Rec'd by Anal.				<i>5/26/16</i>		<i>Amg</i>	
								d. Anal. Completed				<i>5/26/16</i>		<i>Amg</i>	
								e. Calc. Checked				<i>5-27-16</i>		<i>Amg</i>	
								f. Supr. OK'd				<i>5-27-16</i>		<i>Amg</i>	
* Reporting Limit				Samples NOT blank corrected unless otherwise indicated. Results relate only to the items tested.											

Air/Material Sampling Report

Michigan Department of Licensing and Regulatory Affairs

Michigan OSHA/Occupational Health Laboratory

1. Reporting ID Dymet				2. Inspection/Visit/Intervention Number				3. Sampling Number										
4. Establishment Name DYMET								5. Public/Private (For Consultation use only) <input type="checkbox"/> Self-Help <input checked="" type="checkbox"/> Public <input type="checkbox"/> Private										
6. Person Performing Sampling (Signature) <i>Teresa Ducsay</i>								7. CSHO ID		8. Sampling Date 5-17-16		9. Shipping Date						
10. Employee Name: Teresa Ducsay								11. Job Title: SQA-12										
12. Exposure Information				a. Number:		b. Frequency:		13. Photo(s) <input type="checkbox"/> Yes <input type="checkbox"/> No										
Exposure Summary																		
14. Line No.	15. Substance Code	16. Rqstd.	17. Smpl. Type	18. Exp. Type	19. Exposure Level	20. Units	21. PEL	22. Adj.	23. Severity	24. Citation/Hazard Information								
										No Cit.	FTA	Over Exp.	Eng.	PPE	Trng.	Med.	Other	No Haz.
1.																		
2.																		
3.																		
4.																		
5.																		
25. Additives (Enter Line Numbers for those agents contributing to additive effect)																		
26. Total Number of Lines (14):						27. Date Results Received from Laboratory:												
28. Pump Model:				Pump #:				Sampling Data										
29. Sample Submission Number				HA-025 HA-026 HA-027 HA-028														
30. Sample Type/Media				Block Glass Glaze Drywall Drywall Drywall														
31. Filter/Tube Number																		
32. Time On																		
Time Off																		
33. Total Time (in minutes)																		
34. Flow Rate <input type="checkbox"/> l/min <input type="checkbox"/> ml/min																		
35. Volume (in liters)																		
36. Lab Sample Number				162263 162264 162265 162266														
37. Analyze For:				38. RL*				Results										
1.	9020	5/26/16	1%	NDL	NDL-paper	NDL-paper	NDL											
2.					NDL-gypsum	NDL-gypsum												
3.																		
4.																		
5.																		
39. Results expressed in % unless otherwise noted.				40. Test Method: 04L2004 M4020 M0P03.1														
41. Interferences and IH Comments to Lab				42. Supporting Samples				43. Chain of Custody				Date		Initials				
44. Analyst's Comments F2016 0292				a. Blanks:				a. Seals Intact?				Y	(N)	AA AA hmg hmg hmg hmg				
								b. Rec'd in Lab				5/19/16						
								c. Rec'd by Anal.				5/26/16						
								d. Anal. Completed				5/26/16						
								e. Calc. Checked				5-27-16						
								f. Supr. OK'd				5-27-16						
* Reporting Limit				Samples <u>NOT</u> blank corrected unless otherwise indicated. Results relate only to the items tested.														

APPENDIX D

PHOTOGRAPHIC LOG

Site: Dymet Site
Location: Muskegon,
Muskegon County, MI
Contract: EP-S5-16-01
TDD: S05-0001-16-05-001
OSC: Jeff Kimble

Date: 05/17/16
Photographer: Stacey
DeLaReintrie

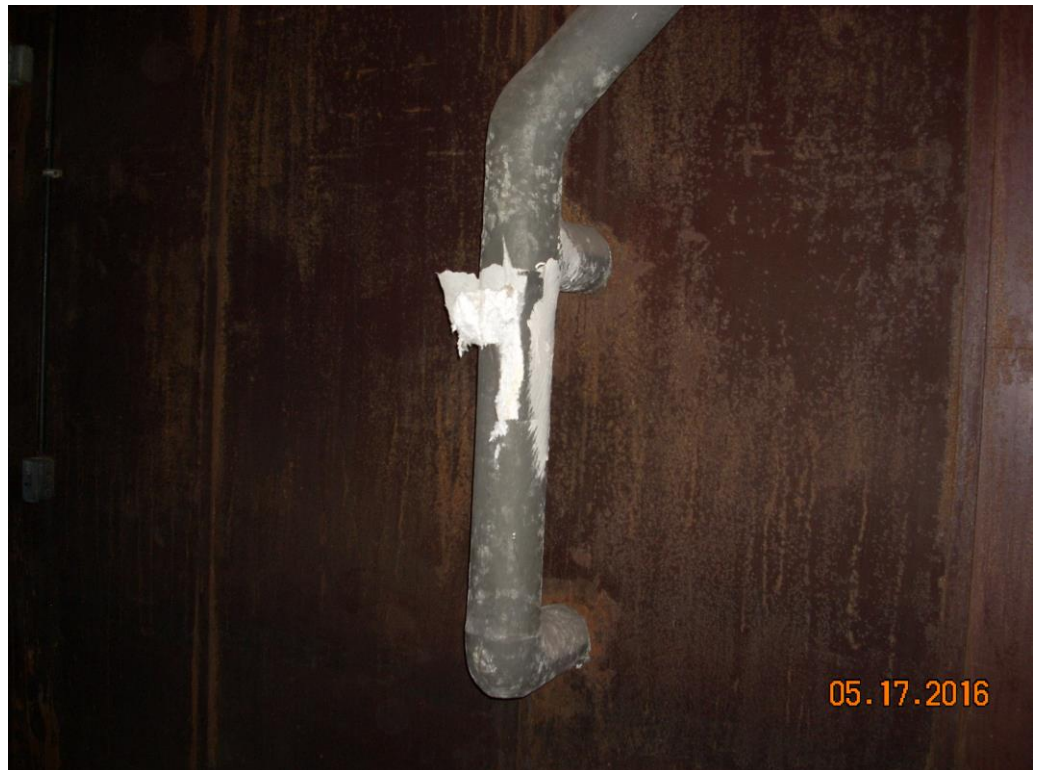
Photograph No.: 1
Possible ACM on piping



Site: Dymet Site
Location: Muskegon,
Muskegon County, MI
Contract: EP-S5-16-01
TDD: S05-0001-16-05-001
OSC: Jeff Kimble

Date: 05/17/16
Photographer: Stacey
DeLaReintrie

Photograph No.: 2
Possible ACM on piping



Site: Dymet Site
Location: Muskegon,
Muskegon County, MI
Contract: EP-S5-16-01
TDD: S05-0001-16-05-001
OSC: Jeff Kimble

Date: 05/17/16
Photographer: Stacey
DeLaReintrie

Photograph No.: 3
Possible ACM on boiler
exterior



Site: Dymet Site
Location: Muskegon,
Muskegon County, MI
Contract: EP-S5-16-01
TDD: S05-0001-16-05-001
OSC: Jeff Kimble

Date: 05/17/16
Photographer: Stacey
DeLaReintrie

Photograph No.: 4
Possible ACM on brick



Site: Dymet Site
Location: Muskegon,
Muskegon County, MI
Contract: EP-S5-16-01
TDD: S05-0001-16-05-001
OSC: Jeff Kimble

Date: 05/17/16
Photographer: Stacey
DeLaReintrie

Photograph No.: 5
Former boiler



Site: Dymet Site
Location: Muskegon,
Muskegon County, MI
Contract: EP-S5-16-01
TDD: S05-0001-16-05-001
OSC: Jeff Kimble

Date: 05/17/16
Photographer: Stacey
DeLaReintrie

Photograph No.: 6
Brick piles



Site: Dymet Site
Location: Muskegon,
Muskegon County, MI
Contract: EP-S5-16-01
TDD: S05-0001-16-05-001
OSC: Jeff Kimble

Date: 05/17/16
Photographer: Stacey
DeLaReintrie

Photograph No.: 7
START and EPA collect
sample DYM-DR-02.



Site: Dymet Site
Location: Muskegon,
Muskegon County, MI
Contract: EP-S5-16-01
TDD: S05-0001-16-05-001
OSC: Jeff Kimble

Date: 05/17/16
Photographer: Stacey
DeLaReintrie

Photograph No.: 8
Floor pit



Site: Dymet Site

Location: Muskegon,
Muskegon County, MI

Contract: EP-S5-16-01

TDD: S05-0001-16-05-001

OSC: Jeff Kimble

Date: 05/17/16

Photographer: Katherine
Cooper

Photograph No.: 9

Sample DYM-FLP-01
collected from floor pit.



Site: Dymet Site

Location: Muskegon,
Muskegon County, MI

Contract: EP-S5-16-01

TDD: S05-0001-16-05-001

OSC: Jeff Kimble

Date: 05/17/16

Photographer: Katherine
Cooper

Photograph No.: 10

Sample DYM-FLP-01
collected from floor pit
location.



Site: Dymet Site

Location: Muskegon,
Muskegon County, MI

Contract: EP-S5-16-01

TDD: S05-0001-16-05-001

OSC: Jeff Kimble

Date: 05/17/16

Photographer: Katherine
Cooper

Photograph No.: 11

Sample DYM-FLP-02
collected from floor pit.



Site: Dymet Site

Location: Muskegon,
Muskegon County, MI

Contract: EP-S5-16-01

TDD: S05-0001-16-05-001

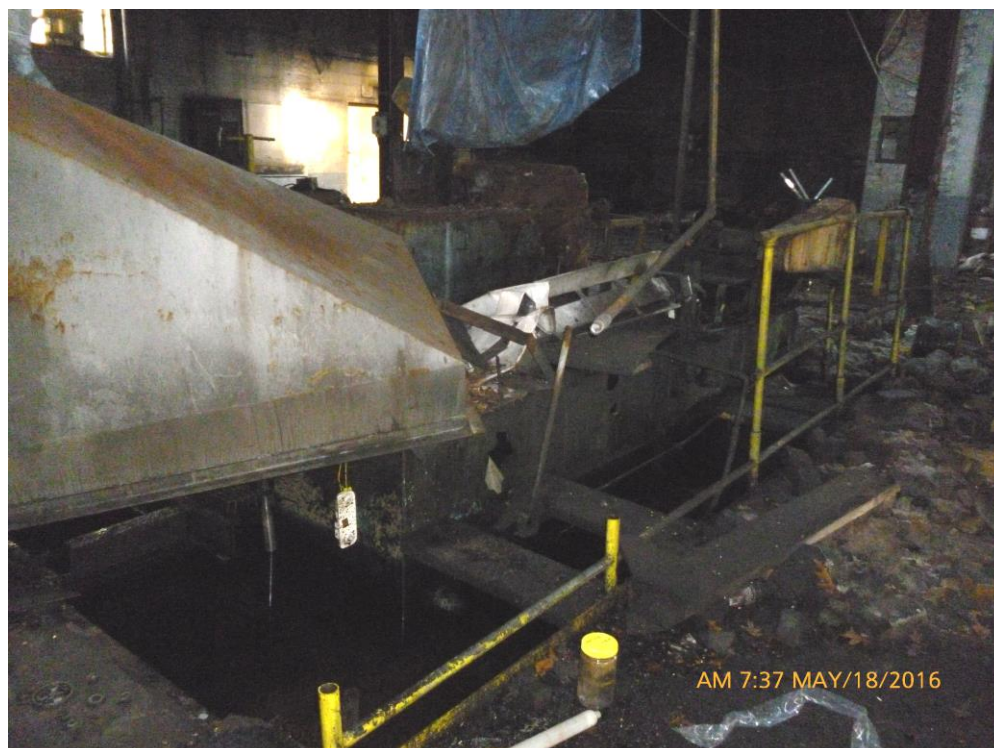
OSC: Jeff Kimble

Date: 05/17/16

Photographer: Katherine
Cooper

Photograph No.: 12

Sample DYM-FLP-02
collected from floor pit
location.



Site: Dymet Site

Location: Muskegon,
Muskegon County, MI

Contract: EP-S5-16-01

TDD: S05-0001-16-05-001

OSC: Jeff Kimble

Date: 05/17/16

Photographer: Katherine
Cooper

Photograph No.: 13

Sample DYM-SOL-03
collected from container
solids.



Site: Dymet Site

Location: Muskegon,
Muskegon County, MI

Contract: EP-S5-16-01

TDD: S05-0001-16-05-001

OSC: Jeff Kimble

Date: 05/17/16

Photographer: Katherine
Cooper

Photograph No.: 14

Solids container from which
sample DYM-SOL-03 was
collected.



Site: Dymet Site

Location: Muskegon,
Muskegon County, MI

Contract: EP-S5-16-01

TDD: S05-0001-16-05-001

OSC: Jeff Kimble

Date: 05/17/16

Photographer: Katherine
Cooper

Photograph No.: 15

Sample DYM-SOL-05
collected from floor solids.



Site: Dymet Site

Location: Muskegon,
Muskegon County, MI

Contract: EP-S5-16-01

TDD: S05-0001-16-05-001

OSC: Jeff Kimble

Date: 05/17/16

Photographer: Katherine
Cooper

Photograph No.: 16

Sample location from which
floor solids sample DYM-
SOL-05 was collected.



Site: Dymet Site

Location: Muskegon,
Muskegon County, MI

Contract: EP-S5-16-01

TDD: S05-0001-16-05-001

OSC: Jeff Kimble

Date: 05/17/16

Photographer: Katherine
Cooper

Photograph No.: 17

Sample DYM-SOL-07
collected from floor solids.



Site: Dymet Site

Location: Muskegon,
Muskegon County, MI

Contract: EP-S5-16-01

TDD: S05-0001-16-05-001

OSC: Jeff Kimble

Date: 05/17/16

Photographer: Katherine
Cooper

Photograph No.: 18

Sample location from which
floor solids sample DYM-
SOL-07 was collected.



Site: Dymet Site

Location: Muskegon,
Muskegon County, MI

Contract: EP-S5-16-01

TDD: S05-0001-16-05-001

OSC: Jeff Kimble

Date: 05/17/16

Photographer: Katherine
Cooper

Photograph No.: 19

Labeled container on top of
floor solids from which
sample DYM-SOL-07 was
collected.



Site: Dymet Site

Location: Muskegon,
Muskegon County, MI

Contract: EP-S5-16-01

TDD: S05-0001-16-05-001

OSC: Jeff Kimble

Date: 05/17/16

Photographer: Katherine
Cooper

Photograph No.: 20

Sample DYM-SC-01 and
duplicate sample DYM-SC-
02 collected from small
container labeled Aquatic
Research - Muriatic Acid.



Site: Dymet Site

Location: Muskegon,
Muskegon County, MI

Contract: EP-S5-16-01

TDD: S05-0001-16-05-001

OSC: Jeff Kimble

Date: 05/17/16

Photographer: Katherine
Cooper

Photograph No.: 21

Sample DYM-SC-03
collected from small
container labeled Telstar –
DTR 600 – Acrylic Enamel
Reducer.



Site: Dymet Site

Location: Muskegon,
Muskegon County, MI

Contract: EP-S5-16-01

TDD: S05-0001-16-05-001

OSC: Jeff Kimble

Date: 05/17/16

Photographer: Katherine
Cooper

Photograph No.: 22

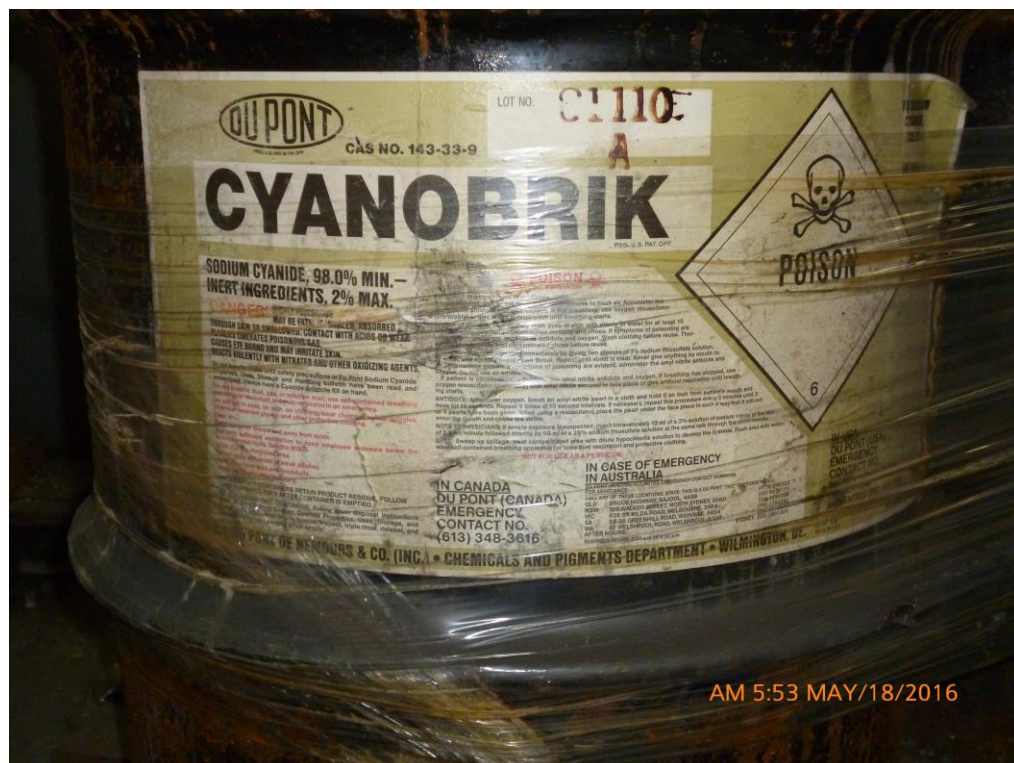
Sample DYM-DR-01
collected from drum labeled
Cyanobrik - Sodium
Cyanide located in the west
building.



Site: Dymet Site
Location: Muskegon,
Muskegon County, MI
Contract: EP-S5-16-01
TDD: S05-0001-16-05-001
OSC: Jeff Kimble

Date: 05/17/16
Photographer: Katherine
Cooper

Photograph No.: 23
Drum labeled Sodium
Cyanide, 98.0% min.,
Poison from which sample
DYM-DR-01 was collected.



Site: Dymet Site
Location: Muskegon,
Muskegon County, MI
Contract: EP-S5-16-01
TDD: S05-0001-16-05-001
OSC: Jeff Kimble

Date: 05/17/16
Photographer: Katherine
Cooper

Photograph No.: 24
Sample DYM-DR-02
collected from drum labeled
Oxidizer.



Site: Dymet Site

Location: Muskegon,
Muskegon County, MI

Contract: EP-S5-16-01

TDD: S05-0001-16-05-001

OSC: Jeff Kimble

Date: 05/17/16

Photographer: Katherine
Cooper

Photograph No.: 25

Drum labeled Corrosive and
Oxidizer from which
sample DYM-DR-02 was
collected.



Site: Dymet Site

Location: Muskegon,
Muskegon County, MI

Contract: EP-S5-16-01

TDD: S05-0001-16-05-001

OSC: Jeff Kimble

Date: 05/17/16

Photographer: Katherine
Cooper

Photograph No.: 26

Oxidizer drum labeled
Nitric Acid from which
sample DYM-DR-02 was
collected.



Site: Dymet Site

Location: Muskegon,
Muskegon County, MI

Contract: EP-S5-16-01

TDD: S05-0001-16-05-001

OSC: Jeff Kimble

Date: 05/17/16

Photographer: Katherine
Cooper

Photograph No.: 27

Oxidizer drum staging area
in west building from which
sample DYM-DR-02 was
collected.



Site: Dymet Site

Location: Muskegon,
Muskegon County, MI

Contract: EP-S5-16-01

TDD: S05-0001-16-05-001

OSC: Jeff Kimble

Date: 05/17/16

Photographer: Katherine
Cooper

Photograph No.: 28

Example of one of the many
small containers located at
the Site, labeled
Formaldehyde 37%.



Site: Dymet Site

Location: Muskegon,
Muskegon County, MI

Contract: EP-S5-16-01

TDD: S05-0001-16-05-001

OSC: Jeff Kimble

Date: 05/17/16

Photographer: Katherine
Cooper

Photograph No.: 29

Location of small container
labeled Formaldehyde 37%
at Site.



Site: Dymet Site

Location: Muskegon,
Muskegon County, MI

Contract: EP-S5-16-01

TDD: S05-0001-16-05-001

OSC: Jeff Kimble

Date: 05/17/16

Photographer: Katherine
Cooper

Photograph No.: 30

East building where floor
pits, floor and container
solid sample locations were
located.



Site: Dymet Site

Location: Muskegon,
Muskegon County, MI

Contract: EP-S5-16-01

TDD: S05-0001-16-05-001

OSC: Jeff Kimble

Date: 05/17/16

Photographer: Katherine
Cooper

Photograph No.: 31

Typical drum staging area
at the Site. This area has
approximately 9 drums.



Site: Dymet Site

Location: Muskegon,
Muskegon County, MI

Contract: EP-S5-16-01

TDD: S05-0001-16-05-001

OSC: Jeff Kimble

Date: 05/17/16

Photographer: Katherine
Cooper

Photograph No.: 32

Example of one of the many
drums located at the Site,
labeled Texaco Merope
150.



Site: Dymet Site

Location: Muskegon,
Muskegon County, MI

Contract: EP-S5-16-01

TDD: S05-0001-16-05-001

OSC: Jeff Kimble

Date: 05/17/16

Photographer: Katherine
Cooper

Photograph No.: 33

Example of one of the many
drums located at the Site,
labeled Mobilarma 245.



Site: Dymet Site

Location: Muskegon,
Muskegon County, MI

Contract: EP-S5-16-01

TDD: S05-0001-16-05-001

OSC: Jeff Kimble

Date: 05/17/16

Photographer: Katherine
Cooper

Photograph No.: 34

Typical drum staging area
in the west building at the
Site. This area has
approximately 9 drums.



Site: Dymet Site

Location: Muskegon,
Muskegon County, MI

Contract: EP-S5-16-01

TDD: S05-0001-16-05-001

OSC: Jeff Kimble

Date: 05/17/16

Photographer: Katherine
Cooper

Photograph No.: 35

Typical drum staging area
at the Site. This area has
approximately 6 drums.



Site: Dymet Site

Location: Muskegon,
Muskegon County, MI

Contract: EP-S5-16-01

TDD: S05-0001-16-05-001

OSC: Jeff Kimble

Date: 05/17/16

Photographer: Katherine
Cooper

Photograph No.: 36

Typical small container and
drum staging area in the
west building at the Site.
This area has approximately
3 small containers and 3
drums.



Site: Dymet Site

Location: Muskegon,
Muskegon County, MI

Contract: EP-S5-16-01

TDD: S05-0001-16-05-001

OSC: Jeff Kimble

Date: 05/17/16

Photographer: Katherine
Cooper

Photograph No.: 37

Example of one of the many
small containers located at
the Site, labeled Metallic
Powders.



Site: Dymet Site

Location: Muskegon,
Muskegon County, MI

Contract: EP-S5-16-01

TDD: S05-0001-16-05-001

OSC: Jeff Kimble

Date: 05/17/16

Photographer: Katherine
Cooper

Photograph No.: 38

Example of one of the many
small containers located in
the basement at the Site,
labeled Paper and Frisked
Cement.



Site: Dymet Site

Location: Muskegon,
Muskegon County, MI

Contract: EP-S5-16-01

TDD: S05-0001-16-05-001

OSC: Jeff Kimble

Date: 05/17/16

Photographer: Katherine
Cooper

Photograph No.: 39

Example of one of the many
unlabeled small containers
located in the basement at
the Site.



Site: Dymet Site

Location: Muskegon,
Muskegon County, MI

Contract: EP-S5-16-01

TDD: S05-0001-16-05-001

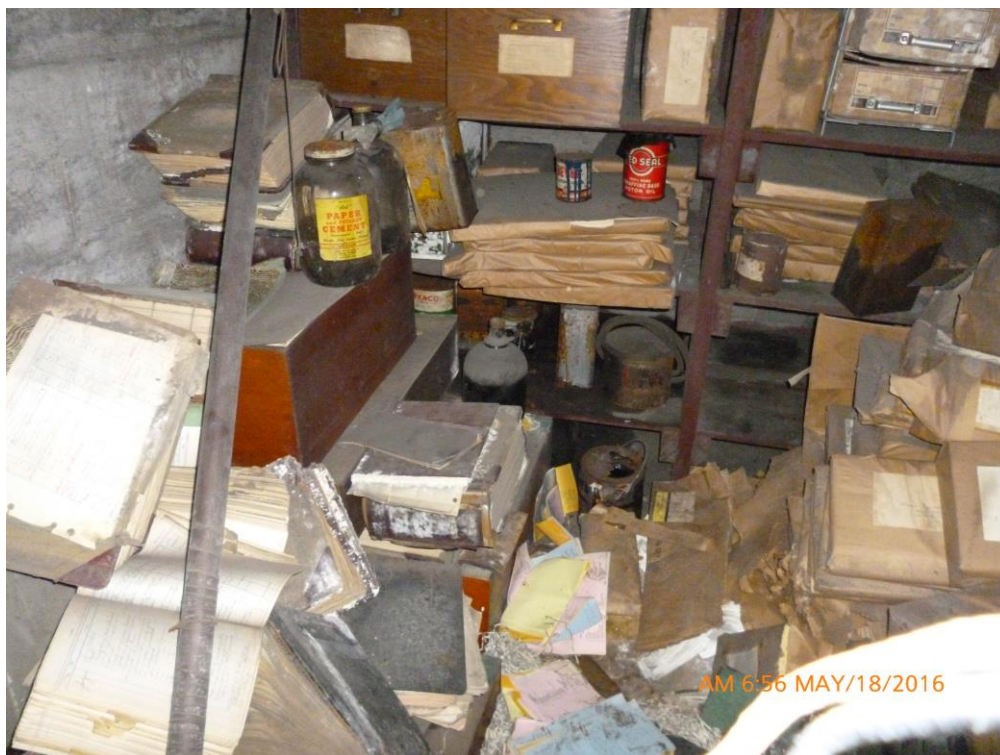
OSC: Jeff Kimble

Date: 05/17/16

Photographer: Katherine
Cooper

Photograph No.: 40

Location of small container
labeled Paper and Frisked
Cement and unlabeled small
container in basement at
Site.



Site: Dymet Site

Location: Muskegon,
Muskegon County, MI

Contract: EP-S5-16-01

TDD: S05-0001-16-05-001

OSC: Jeff Kimble

Date: 05/17/16

Photographer: Katherine
Cooper

Photograph No.: 41

Large pool of water near the
south entrance of the west
building. The floor in front
of the window is also wet.



Site: Dymet Site

Location: Muskegon,
Muskegon County, MI

Contract: EP-S5-16-01

TDD: S05-0001-16-05-001

OSC: Jeff Kimble

Date: 05/17/16

Photographer: Katherine
Cooper

Photograph No.: 42

Large opening in the roof of
the east building.



Site: Dymet Site

Location: Muskegon,
Muskegon County, MI

Contract: EP-S5-16-01

TDD: S05-0001-16-05-001

OSC: Jeff Kimble

Date: 05/17/16

Photographer: Katherine
Cooper

Photograph No.: 43

55-gallon drum labeled
"Regular Mineral Spirits"
located in the southeast
corner of the east building.



APPENDIX E
VALIDATED ANALYTICAL DATA PACKAGE

Sustainment and Restoration Services, llc
79 W. Monroe St, Suite 1119 • Chicago, IL 60603 • (312) 220-7171

MEMORANDUM

Date: May 31, 2016

To: Tricia Edwards, OSC, US EPA Region 5
Raghu Nagam, Project Manager, SRS
Superfund Technical Assessment and Response Team (START) for Region 5

Prepared by: Richard Baldino, START QAO for Region 5

QA/QC

Concurrence by:

Subject: Data Validation for
Dymet Site
Muskegon, Michigan
Project TDD No. S05-0001-16-05-001

Laboratory: STAT Analysis, Chicago, IL
Sample Delivery Group (SDG): 16050730

1.0 INTRODUCTION

The START QAO for Region 5 validated analytical data for 6 liquid and 5 solid samples for analysis of Total Metals plus Copper, Nickel, and Zinc, TCLP Metals plus Copper, Nickel, and Zinc, PCBs, Amenable Cyanide, Reactivity, Corrosivity, and Flashpoint. Samples were collected at the Dymet Site located in Muskegon, Michigan on May 17 and May 18, 2016. The samples were analyzed under SDG 16050730 by STAT Analysis Corporation of Chicago, IL using U.S. Environmental Protection Agency (U.S. EPA) methods 6020, 7470A, 7471A, 1311, 9012A, 7.3, 7.3, 8082, 1010, and E150.1.

Laboratory data were validated using guidelines set forth in the U.S. EPA Contract Laboratory Program National Functional Guidelines (NFG) for Organic Data Review (EPA-540-R-014-002, August 2014), NFG for Inorganic Data Review (EPA-540-R-013-001, August 2014), and applicable methodologies. The purpose of the chemical data quality evaluation process is to assess the usability of data for the project decision-making process.

Organic data validation consisted of a review of the following QC audits:

- Chain of custody and sample receipt forms review
- Sample preservation and holding time
- Blank results
- Surrogate recoveries
- Matrix spike and Matrix Spike Duplicate (MS/MSD) recovery results
- Laboratory Control Sample (LCS)/Laboratory Control Sample Duplicate (LCSD) recovery results

Inorganic data validation consisted of a review of the following QC audits:

- Chain of custody and sample receipt forms review
- Sample preservation and holding time
- Blank results
- Duplicate Sample Results
- LCS recovery results
- MS/MSD recovery results

Section 2.0 of this memorandum discusses the results of organic data validation. Section 3.0 of this memorandum discusses the results of inorganic data validation. Section 4.0 presents an overall assessment of

the data. The attachment to this memorandum contains the laboratory reporting forms as well as START's handwritten data qualifications where warranted.

2.0 ORGANIC DATA VALIDATION RESULTS

The results of START's organic data validation are summarized below by QC audit reviewed. The data qualifiers listed below were applied to sample analytical results where warranted (see attachment):

- J – The analyte was detected. The reported concentration was considered estimated.
- U – The analyte was not detected.
- UJ – The analyte was not detected. The reporting limit was considered estimated.

After the START project staff received the data packages, they were inventoried for completeness and then reviewed according to matrix-specific protocols and data quality objectives established for the project.

2.1 LIQUID SAMPLES BY METHOD 6020, 7470A, 7471A, and 8082

2.1.1 SAMPLE HANDLING

Chain of custody documentation and sample receipt forms were reviewed to ensure requested analyses were performed and that samples arrived at the laboratory intact. Samples were collected on May 17-18, 2016 and were received on ice by the laboratory on May 18, 2016. No discrepancies were noted.

2.1.2 SAMPLE PRESERVATION AND HOLDING TIME

Samples analyzed for pH do not have a holding time, as the holding time generally an immediate field test. The holding time impacting the corrosivity of the sample is not a concern because the pH is so low.

2.1.3 BLANK RESULTS

The purpose of laboratory (or field) blank analysis is to determine the existence and magnitude of contamination resulting from laboratory (or field) activities. A laboratory method blank sample (MB-92275-PCB) was run with this SDG. No method blank detects were noted.

2.1.4 SURROGATE RECOVERIES

Laboratory performance on individual samples is established by means of fortifying each sample with surrogate compounds. Surrogate spike compounds included tetrachloro-m-xylene and decachlorobiphenyl. Surrogate recoveries were acceptable. No discrepancies were noted.

2.1.5 MS/MSD RECOVERY RESULTS

Data for MS/MSDs are generated to determine long-term precision and accuracy of the analytical method on various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis.

MS/MSD samples were not requested for this SDG. No qualification was attempted based on missing MS/MSD audit results.

2.1.6 LCS/LCSD RECOVERY RESULTS

Data for the LCS/LCSD is generated to provide information on the accuracy of the analytical method and on the laboratory performance. The LCS/LCSD is fortified with Aroclor 1260 and analyzed with each batch of samples. The LCS/LCSD accuracy performance is measured by Percent Recovery (%R). LCS/LCSD recoveries were acceptable. No discrepancies were noted.

2.1.7 FIELD DUPLICATES

Data for field duplicates were collected and analyzed for chemical constituents to measure the cumulative uncertainty (i.e., precision) of the sample collection, splitting, handling, storage, preparation and analysis operations, as well as natural sample heterogeneity that is not eliminated through simple mixing in the field. Field duplicates are two samples prepared by mixing a volume of sample and splitting it into two separate sample containers that are labeled as individual field samples.

Field duplicate samples were not collected. No qualification was attempted based on missing field duplicate audit results.

2.1.8 GENERAL LABORATORY OBSERVATIONS

The laboratory noted that multiple samples were diluted due to high native VOC concentrations. The resulting reporting limits were elevated.

3.0 INORGANIC DATA VALIDATION RESULTS

The results of START's inorganic data validation are summarized below by QC audit reviewed. The data qualifiers listed below were applied to sample analytical results where warranted:

- J – The analyte was detected. The reported concentration was considered estimated.
- U – The analyte was not detected.
- UJ – The analyte was not detected. The reporting limit was considered estimated.

After the START project staff received the data packages, they were inventoried for completeness and then reviewed according to matrix-specific protocols and data quality objectives established for the project.

3.1 LIQUID SAMPLES BY METHOD 9045

3.1.1 SAMPLE HANDLING

Chain of custody documentation and sample receipt forms were reviewed to ensure requested analyses were performed and that samples arrived at the laboratory intact. Solid samples were collected on April 22, 2016 and were received on ice by the laboratory on April 23, 2016. No discrepancies were noted.

3.1.2 SAMPLE PRESERVATION AND HOLDING TIME

Samples were analyzed within the holding time criteria. No discrepancies were noted.

3.1.3 BLANK RESULTS

The assessment of blank analysis results is to determine the existence and magnitude of contamination resulting from laboratory and/or field activities. Laboratory method blank samples are not required for method 9045. No discrepancies were noted.

3.1.4 LCS RECOVERY RESULTS

The LCS serves as a monitor of the overall performance of each step during the analysis, including the sample preparation. The LCS is fortified with each analyte of interest and analyzed with each batch of samples. The LCS accuracy performance is measured by %R. LCS recoveries were acceptable. No discrepancies were noted.

3.1.5 MS/MSD RECOVERY RESULTS

The spiked sample analysis is designed to provide information about the effect of each sample matrix on the sample preparation procedures and the measurement methodology. The MS/MSD accuracy performance is measured by %R.

MS/MSD audits are not required for method 9045. No discrepancies were noted.

3.1.6 FIELD DUPLICATES

Data for field duplicates were collected and analyzed for chemical constituents to measure the cumulative uncertainty (i.e., precision) of the sample collection, splitting, handling, storage, preparation and analysis operations, as well as natural sample heterogeneity that is not eliminated through simple mixing in the field. Field duplicates are two samples prepared by mixing a volume of sample and splitting it into two separate sample containers that are labeled as individual field samples.

Field duplicate samples were not collected. No qualification was attempted based on missing field duplicate audit results.

3.1.7 GENERAL LABORATORY OBSERVATIONS

No laboratory observations were noted.

3.2 LIQUID SAMPLES BY METHOD ASTM D92

3.2.1 SAMPLE HANDLING

Chain of custody documentation and sample receipt forms were reviewed to ensure requested analyses were performed and that samples arrived at the laboratory intact. Solid samples were collected on April 22, 2016 and were received on ice by the laboratory on April 23, 2016. No discrepancies were noted.

3.2.2 SAMPLE PRESERVATION AND HOLDING TIME

Samples were analyzed within the holding time criteria. No discrepancies were noted.

3.2.3 BLANK RESULTS

The assessment of blank analysis results is to determine the existence and magnitude of contamination resulting from laboratory and/or field activities. Laboratory method blank samples are not required for method D92. No discrepancies were noted.

3.2.4 LCS RECOVERY RESULTS

The LCS serves as a monitor of the overall performance of each step during the analysis, including the sample preparation. The LCS is fortified with each analyte of interest and analyzed with each batch of samples. The LCS accuracy performance is measured by %R.

LCS audits are not required for method D92. No discrepancies were noted.

3.2.5 MS/MSD RECOVERY RESULTS

The spiked sample analysis is designed to provide information about the effect of each sample matrix on the sample preparation procedures and the measurement methodology. The MS/MSD accuracy performance is measured by %R.

MS/MSD audits are not required for method D92. No discrepancies were noted.

3.2.6 FIELD DUPLICATES

Data for field duplicates were collected and analyzed for chemical constituents to measure the cumulative uncertainty (i.e., precision) of the sample collection, splitting, handling, storage, preparation and analysis operations, as well as natural sample heterogeneity that is not eliminated through simple mixing in the field.

Field duplicates are two samples prepared by mixing a volume of sample and splitting it into two separate sample containers that are labeled as individual field samples.

Field duplicate samples were not collected. No qualification was attempted based on missing field duplicate audit results.

3.2.7 GENERAL LABORATORY OBSERVATIONS

No laboratory observations were noted.

4.0 OVERALL ASSESSMENT OF DATA

The analytical results meet the data quality objectives defined by the applicable method and validation guidance documentation. The analytical data is usable and acceptable as reported by the laboratory.

ATTACHMENT
SUMMARY OF VALIDATED ANALYTICAL RESULTS
AND
CHAIN-OF-CUSTODY

Client Sample Results

Client: Sustainment & Restoration Services, LLC
Project/Site: Dymet Site

TestAmerica Job ID: 500-110631-1

Client Sample ID: BP-1

Date Collected: 04/22/16 11:42

Date Received: 04/22/16 15:40

Lab Sample ID: 500-110631-1

Matrix: Waste

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	5.0	U	5.0	2.9	mg/Kg	—	04/24/16 17:35	05/05/16 18:34	20000
Carbon tetrachloride	20	U	20	7.7	mg/Kg	—	04/24/16 17:35	05/05/16 18:34	20000
Chlorobenzene	20	U	20	7.7	mg/Kg	—	04/24/16 17:35	05/05/16 18:34	20000
Chloroform	20	U	20	7.4	mg/Kg	—	04/24/16 17:35	05/05/16 18:34	20000
1,2-Dichloroethane	20	U	20	7.8	mg/Kg	—	04/24/16 17:35	05/05/16 18:34	20000
1,1-Dichloroethene	20	U	20	7.8	mg/Kg	—	04/24/16 17:35	05/05/16 18:34	20000
Methyl Ethyl Ketone	100	U	100	42	mg/Kg	—	04/24/16 17:35	05/05/16 18:34	20000
Tetrachloroethene	20	U	20	7.4	mg/Kg	—	04/24/16 17:35	05/05/16 18:34	20000
Trichloroethene	10	U	10	3.3	mg/Kg	—	04/24/16 17:35	05/05/16 18:34	20000
Vinyl chloride	10	U	10	5.2	mg/Kg	—	04/24/16 17:35	05/05/16 18:34	20000

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	93		71 - 127	04/24/16 17:35	05/05/16 18:34	20000
Toluene-d8 (Surr)	98		75 - 120	04/24/16 17:35	05/05/16 18:34	20000
4-Bromofluorobenzene (Surr)	100		71 - 120	04/24/16 17:35	05/05/16 18:34	20000
Dibromofluoromethane	95		70 - 120	04/24/16 17:35	05/05/16 18:34	20000

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
corrosivity by pH	1.57		0.200	0.200	SU	—		04/29/16 15:15	1
Flashpoint	102		40.0	40.0	Degrees F	—		05/04/16 00:17	1

Client Sample Results

Client: Sustainment & Restoration Services, LLC
Project/Site: Dymet Site

TestAmerica Job ID: 500-110631-1

Client Sample ID: BP-2

Date Collected: 04/22/16 11:50

Date Received: 04/22/16 15:40

Lab Sample ID: 500-110631-2

Matrix: Waste

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	2.5	U	2.5	1.5	mg/Kg	—	04/24/16 17:36	05/05/16 18:08	10000
Carbon tetrachloride	10	U	10	3.8	mg/Kg	—	04/24/16 17:36	05/05/16 18:08	10000
Chlorobenzene	10	U	10	3.9	mg/Kg	—	04/24/16 17:36	05/05/16 18:08	10000
Chloroform	10	U	10	3.7	mg/Kg	—	04/24/16 17:36	05/05/16 18:08	10000
1,2-Dichloroethane	10	U	10	3.9	mg/Kg	—	04/24/16 17:36	05/05/16 18:08	10000
1,1-Dichloroethene	10	U	10	3.9	mg/Kg	—	04/24/16 17:36	05/05/16 18:08	10000
Methyl Ethyl Ketone	50	U	50	21	mg/Kg	—	04/24/16 17:36	05/05/16 18:08	10000
Tetrachloroethene	10	U	10	3.7	mg/Kg	—	04/24/16 17:36	05/05/16 18:08	10000
Trichloroethene	5.0	U	5.0	1.6	mg/Kg	—	04/24/16 17:36	05/05/16 18:08	10000
Vinyl chloride	5.0	U	5.0	2.6	mg/Kg	—	04/24/16 17:36	05/05/16 18:08	10000

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		71 - 127	04/24/16 17:36	05/05/16 18:08	10000
Toluene-d8 (Surr)	100		75 - 120	04/24/16 17:36	05/05/16 18:08	10000
4-Bromofluorobenzene (Surr)	100		71 - 120	04/24/16 17:36	05/05/16 18:08	10000
Dibromofluoromethane	96		70 - 120	04/24/16 17:36	05/05/16 18:08	10000

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Flashpoint	112		40.0	40.0	Degrees F	—		05/04/16 00:33	1

Client Sample Results

Client: Sustainment & Restoration Services, LLC
Project/Site: Bethel Avenue Paint Site

TestAmerica Job ID: 500-110631-1

Client Sample ID: BP-3

Date Collected: 04/22/16 11:56

Date Received: 04/22/16 15:40

Lab Sample ID: 500-110631-3

Matrix: Waste

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
corrosivity by pH	13.5		0.200	0.200	SU	—		04/29/16 15:21	1

Client Sample Results

Client: Sustainment & Restoration Services, LLC
Project/Site: Bethel Avenue Paint Site

TestAmerica Job ID: 500-110631-1

Client Sample ID: BP-4

Date Collected: 04/22/16 11:59

Date Received: 04/22/16 15:40

Lab Sample ID: 500-110631-4

Matrix: Waste

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Flashpoint	157		40.0	40.0	Degrees F	—		05/04/16 00:48	1

Client Sample Results

Client: Sustainment & Restoration Services, LLC
Project/Site: Bethel Avenue Paint Site

TestAmerica Job ID: 500-110631-1

Client Sample ID: BP-5

Date Collected: 04/22/16 12:07

Date Received: 04/22/16 15:40

Lab Sample ID: 500-110631-5

Matrix: Waste

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	13	U	13	7.3	mg/Kg	—	04/24/16 17:38	05/05/16 19:27	50000
Carbon tetrachloride	50	U	50	19	mg/Kg	—	04/24/16 17:38	05/05/16 19:27	50000
Chlorobenzene	50	U	50	19	mg/Kg	—	04/24/16 17:38	05/05/16 19:27	50000
Chloroform	50	U	50	19	mg/Kg	—	04/24/16 17:38	05/05/16 19:27	50000
1,2-Dichloroethane	50	U	50	20	mg/Kg	—	04/24/16 17:38	05/05/16 19:27	50000
1,1-Dichloroethene	50	U	50	20	mg/Kg	—	04/24/16 17:38	05/05/16 19:27	50000
Methyl Ethyl Ketone	250	U	250	110	mg/Kg	—	04/24/16 17:38	05/05/16 19:27	50000
Tetrachloroethene	50	U	50	19	mg/Kg	—	04/24/16 17:38	05/05/16 19:27	50000
Trichloroethene	25	U	25	8.2	mg/Kg	—	04/24/16 17:38	05/05/16 19:27	50000
Vinyl chloride	25	U	25	13	mg/Kg	—	04/24/16 17:38	05/05/16 19:27	50000

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		71 - 127	04/24/16 17:38	05/05/16 19:27	50000
Toluene-d8 (Surr)	99		75 - 120	04/24/16 17:38	05/05/16 19:27	50000
4-Bromofluorobenzene (Surr)	105		71 - 120	04/24/16 17:38	05/05/16 19:27	50000
Dibromofluoromethane	95		70 - 120	04/24/16 17:38	05/05/16 19:27	50000

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
corrosivity by pH	5.32		0.200	0.200	SU	—		04/29/16 15:32	1

Client Sample Results

Client: Sustainment & Restoration Services, LLC
Project/Site: Bethel Avenue Paint Site

TestAmerica Job ID: 500-110631-1

Client Sample ID: BP-6

Date Collected: 04/22/16 12:18

Date Received: 04/22/16 15:40

Lab Sample ID: 500-110631-6

Matrix: Waste

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Flashpoint	167		40.0	40.0	Degrees F	—		05/04/16 01:04	1

Client Sample Results

Client: Sustainment & Restoration Services, LLC
Project/Site: Bethel Avenue Paint Site

TestAmerica Job ID: 500-110631-1

Client Sample ID: BP-7

Date Collected: 04/22/16 12:34

Date Received: 04/22/16 15:40

Lab Sample ID: 500-110631-7

Matrix: Waste

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	5.0	U	5.0	2.9	mg/Kg	—	04/24/16 17:40	05/05/16 19:01	20000
Carbon tetrachloride	20	U	20	7.7	mg/Kg	—	04/24/16 17:40	05/05/16 19:01	20000
Chlorobenzene	20	U	20	7.7	mg/Kg	—	04/24/16 17:40	05/05/16 19:01	20000
Chloroform	20	U	20	7.4	mg/Kg	—	04/24/16 17:40	05/05/16 19:01	20000
1,2-Dichloroethane	20	U	20	7.8	mg/Kg	—	04/24/16 17:40	05/05/16 19:01	20000
1,1-Dichloroethene	20	U	20	7.8	mg/Kg	—	04/24/16 17:40	05/05/16 19:01	20000
Methyl Ethyl Ketone	100	U	100	42	mg/Kg	—	04/24/16 17:40	05/05/16 19:01	20000
Tetrachloroethene	20	U	20	7.4	mg/Kg	—	04/24/16 17:40	05/05/16 19:01	20000
Trichloroethene	10	U	10	3.3	mg/Kg	—	04/24/16 17:40	05/05/16 19:01	20000
Vinyl chloride	10	U	10	5.2	mg/Kg	—	04/24/16 17:40	05/05/16 19:01	20000

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	93		71 - 127	04/24/16 17:40	05/05/16 19:01	20000
Toluene-d8 (Surr)	102		75 - 120	04/24/16 17:40	05/05/16 19:01	20000
4-Bromofluorobenzene (Surr)	99		71 - 120	04/24/16 17:40	05/05/16 19:01	20000
Dibromofluoromethane	95		70 - 120	04/24/16 17:40	05/05/16 19:01	20000

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
corrosivity by pH	1.61		0.200	0.200	SU	—		04/29/16 15:38	1

Client Sample Results

Client: Sustainment & Restoration Services, LLC
Project/Site: Bethel Avenue Paint Site

TestAmerica Job ID: 500-110631-1

Client Sample ID: BP-8

Date Collected: 04/22/16 12:47

Date Received: 04/22/16 15:40

Lab Sample ID: 500-110631-8

Matrix: Waste

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
corrosivity by pH	0.540		0.200	0.200	SU	—		04/29/16 15:44	1

Client Sample Results

Client: Sustainment & Restoration Services, LLC
Project/Site: Bethel Avenue Paint Site

TestAmerica Job ID: 500-110631-1

Client Sample ID: BP-9

Date Collected: 04/22/16 12:59

Date Received: 04/22/16 15:40

Lab Sample ID: 500-110631-9

Matrix: Waste

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	27		13	7.3	mg/Kg		04/24/16 17:42	05/05/16 19:54	50000
Carbon tetrachloride	50	U	50	19	mg/Kg		04/24/16 17:42	05/05/16 19:54	50000
Chlorobenzene	50	U	50	19	mg/Kg		04/24/16 17:42	05/05/16 19:54	50000
Chloroform	50	U	50	19	mg/Kg		04/24/16 17:42	05/05/16 19:54	50000
1,2-Dichloroethane	50	U	50	20	mg/Kg		04/24/16 17:42	05/05/16 19:54	50000
1,1-Dichloroethene	50	U	50	20	mg/Kg		04/24/16 17:42	05/05/16 19:54	50000
Methyl Ethyl Ketone	290		250	110	mg/Kg		04/24/16 17:42	05/05/16 19:54	50000
Tetrachloroethene	50	U	50	19	mg/Kg		04/24/16 17:42	05/05/16 19:54	50000
Trichloroethene	25	U	25	8.2	mg/Kg		04/24/16 17:42	05/05/16 19:54	50000
Vinyl chloride	25	U	25	13	mg/Kg		04/24/16 17:42	05/05/16 19:54	50000
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		71 - 127				04/24/16 17:42	05/05/16 19:54	50000
Toluene-d8 (Surr)	101		75 - 120				04/24/16 17:42	05/05/16 19:54	50000
4-Bromofluorobenzene (Surr)	103		71 - 120				04/24/16 17:42	05/05/16 19:54	50000
Dibromofluoromethane	94		70 - 120				04/24/16 17:42	05/05/16 19:54	50000

#N/A
#N/A
#N/A
#N/A

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

TestAmerica Laboratories, Inc.

1
2
3
4
5
6
7
8
9

Login Sample Receipt Checklist

Client: Sustainment & Restoration Services, LLC

Job Number: 500-110631-1

Login Number: 110631

List Source: TestAmerica Chicago

List Number: 1

Creator: Scott, Sherri L

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	Received same day of collection; chilling process has begun.
Cooler Temperature is recorded.	True	9.3
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	